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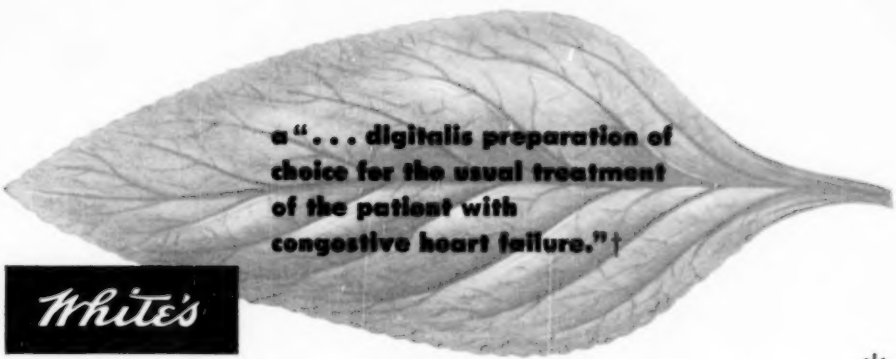
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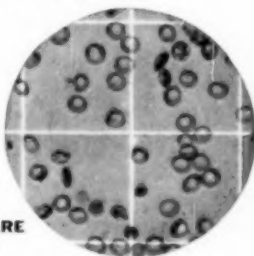
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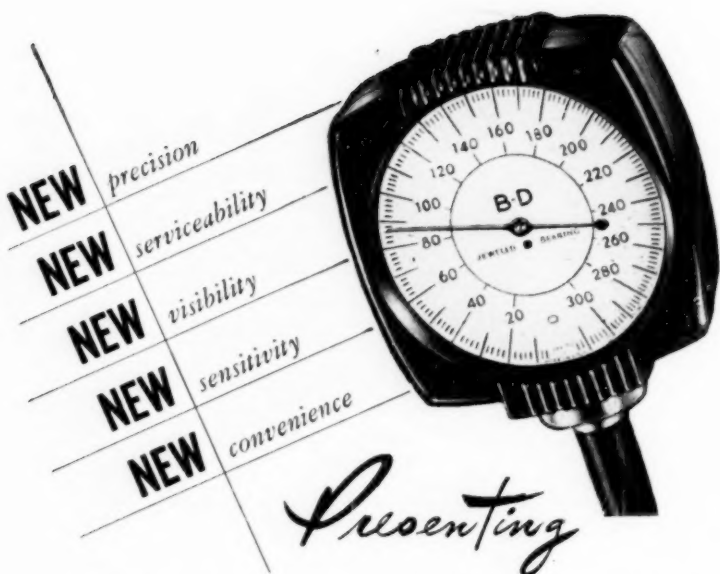
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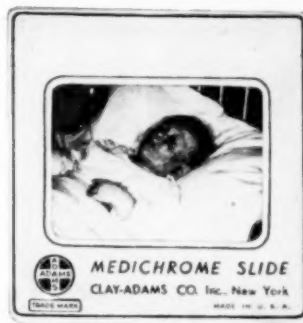
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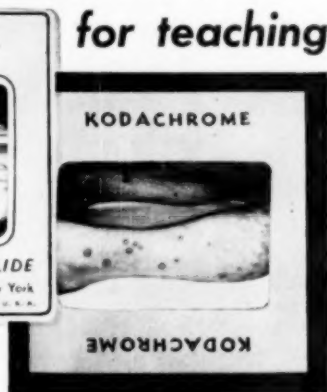


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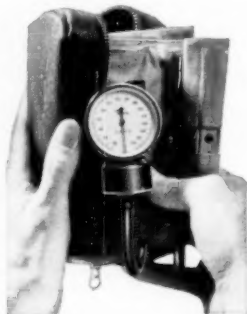
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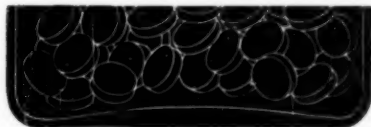


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3. Rakoff, A.E.; Paschkis, K.E., and Cantarow, A.: J. Clin. Endocrinol. 7:700, (Oct.) 1947.

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September, 1950

Medical Education Takes Inventory*

MELVIN A. CASBERG

Dean, Saint Louis University School of Medicine
St. Louis, Missouri

NEW HORIZONS

Great changes in medicine have transpired during the past fifty years and it behooves formal medical education to introspect and determine whether Schools of Medicine are keeping pace with scientific and social progress. Against an economical and social back drop of higher costs of medical care, trends toward specialization and a general American move toward socialism, we, as medical educators, bear a great responsibility to our students. Some would have us believe that the duties of a School of Medicine are purely academic and that our activity should not include the inculcation of a social responsibility. In my opinion, this warped logic is the basic reason why medicine and the Medical profession now face a serious crisis. We, as medical educators, are just as duty bound to develop in the student a sense of social responsibility to his future patient as we are to teach him the symptomatology of acute appendicitis.

A definite trend in medicine during the past fifty years has been that of specialization. This is the natural outgrowth of the tremendous expansion in medical science. No one man can possibly master the whole field of medicine and, hence, must limit his study and practice to a more or less distinct anatomical, physiological or technical entity. This tendency to specialization is, probably, the best solution to the situation and will continue to exist so long as diagnostic and therapeutic technics are difficult and require long periods of study for mastery. The recent development of the various specialty boards has given academic sanction to such a trend. However, as in the case with many good things, I fear the pendulum of specialization has swung too far.

A friend of mine stated recently, "Everyone wants to be a Chief and no one wants to be an Indian." A census of medical students will reveal that approximately one-half of them wish to be specialists and this is readily understood in view of the fact that all who control undergraduate and graduate medical education are specialists. If this selectivity continues, the organization of the medical profession will eventually become topheavy. If 80 per cent of the conditions bringing a patient to a physician can be handled by a general practitioner, then, in the interests of conservation of manpower and

*Address to Montgomery County Medical Society, Dayton, Ohio. First lecture of the 101st year, Jan 6, 1950.

mantime, we, as medical educators, especially in view of the shortage of physicians, are wasting a considerable portion of our efforts.

The general practitioner who is still the backbone of medicine, has been forced dangerously near the periphery. The public, as well as the governing medical and hospital organizations, have contributed to the low ebb in the prestige of the general practitioner. This situation with the over-emphasis on specialists is extremely unfortunate to the public relations of the medical profession and has indirectly contributed to the progress made by those who would socialize medicine. The specialist, and I speak from experience being myself a diplomate of the American Board of Surgery, has little, if any, opportunity to appreciate the daily life of Mrs. Murphy who comes in to have her gallbladder removed. He sees her in his office prior to the hospitalization for surgery and, following the routine postoperative care in the hospital, has her return for a few office visits. In distinct contrast, the general practitioner who referred Mrs. Murphy to the specialist knows much more about her home life. He delivered her four children. He made house calls on Mrs. Murphy and her family for years. He knows that Mrs. Murphy boils a fine pot of coffee and grows a beautiful stock of roses. He comforted Mrs. Murphy when her oldest boy died on the Normandy Beach Head on D Day. Let us not forget that our best public relations man is the general practitioner! We, in medical education, must face this problem of overspecialization and contribute toward its correction. If we do not, we shall have all Chiefs and no Indians.

In my opinion the medical profession has fallen short in its lack of social insight and positive professional leadership in directing public opinion toward a satisfactory solution to the problem of adequate medical care. Medical education is, in part, to blame for this failure. Were all medical students and physicians educated as to their personal social responsibility to provide adequate care for all people, then that aggressive action against compulsory health insurance would result in the defeat of such a program. A serious crisis requires drastic action. If organized medicine would underwrite the success of voluntary health insurance and in good faith guarantee its success, not in three or four years, when it may be too late, but now, then the backbone of compulsory health insurance would be broken. Obviously, this requires sacrifice with loss of both time and money, yet in the not too distant past 50,000 of us felt that an issue of importance was at stake and left loved ones, home and practice to guarantee freedom. We are now faced with another crisis relative to the freedom of choice and individual enterprise. I am convinced that should the federal control of medicine become a part of the American way of life, then the future of medicine will have been dealt a blow from which she will never fully recover. Is not this danger worthy of serious thought and drastic action? Neither a \$25 assessment nor a \$200 assessment will, in itself, forestall compulsory health insurance. It would appear that more of the strategy and action against the federal control of medicine should stem from the lower echelons of organized medicine, the city

and county medical societies. Why not direct our efforts and a goodly portion of these assessments down to the city and county medical society levels to implement and underwrite voluntary health insurance? Negative action and strategic withdrawals do not win a battle.

The changing scenery against whose backdrop the medical graduate must act, constantly presents new horizons. Progressive medical education must anticipate the future for the embryo physician who commences his formal studies six to ten years before facing action on the stage of practice.

PREPARATION FOR MEDICINE

Medicine is not a single career but rather a multiplicity of careers, and there is no such person as a typical premedical student. The art and science of medicine finds room for the technician as well as the philosopher; the recluse as well as the aggressive leader; the poet as well as the statistician. Although a fundamental grasp of chemistry, physiology and biology is essential, nevertheless, the prospective applicant to the Schools of Medicine should be urged to secure as broad an educational basis for his professional studies as possible. It is important that he acquire that culture which is associated with the Bachelor of Arts degree. Unfortunately, and here the Schools of Medicine are chiefly to blame, so much stress has been laid on adequate preparation in chemistry and biology, that many applicants are poor stereotyped individuals who lack the broad scholastic experience so essential to a physician who wills to be a leader in his community. Sir James Barrie said, "The man of science appears to be the only man who has anything to say just now—and the only man who does not know how to say it." Sir Arthur Quiller-Couch further illustrated this deficiency by writing that for men of science the neat clean carving of words is a very necessary accomplishment.

Without contradicting the truth of the preceding paragraph, I must add that, as never before, the premedical student must have a firm foundation in chemistry and biology. Medicine is showing a definite trend toward basic sciences. One has but to compare the medical journals of twenty-five years ago with current journals to appreciate this fact, for whereas twenty-five years ago the great proportion of material presented discussed the technique of procedure, today a large proportion of the articles are fundamentals of biochemistry, physiology, pharmacology and bacteriology. The reason why operations are more successful today is not essentially an improvement in technique but rather the more adequate preparation and postoperative care which is fundamentally a contribution of biochemistry and physiology. Regions of the body inaccessible to the surgeon until recently have been made accessible by improvements in anesthesiology, which, in turn, is little more than applied physiology and pharmacology. The greatest single contribution to the therapeutic armamentarium of the physician during the past fifty years—penicillin—comes from a department of basic science.

One of the criticisms of our age is that scientific advancement has progressed far ahead of our spiritual development. The technologies have outstripped the social structure. We live in an age that splits the atom, yet

must of necessity utilize this discovery first for the destruction of man. In the selection of medical students it must be realized that scholastic achievements alone cannot be substituted for excellence in character, and academic superiority is not sufficient foundation to insure true success in the art and science of medicine as a profession. The School of Medicine must appreciate her responsibility in ascertaining so far as possible the capability of the student to utilize in a manner beneficial both to society and to himself the knowledge and skill acquired through medical education. Dr. Raymond Allen, President of the University of Washington, aptly states that well rounded development of character and personality are "qualities never lacking in good physicians and without them intellectual development, however brilliant, is socially useless and possibly dangerous." I am reminded of the sage advice of the Persian poet* who wrote about 800 years ago, "Should'st thou repair, then, to thy larder and there find of all thy once bounteous store but two loaves remain, I yet council thee to sell one wherewith to buy white hyacinths to feed thy soul."

It is impossible to select the proper applicants for medical schools with 100 per cent accuracy. A serious responsibility rests on the shoulders of an admission committee. This applies not only to the detection of the better quality of a man who will graduate but it is just as important to detect the lack of quality in a man who fails after six months and thereby leaves a vacant position through the remaining three and one-half years which cannot be filled. Most admissions committees are agreed that a one hour interview, or even a three hours interview, is entirely inadequate for thorough evaluation of a prospective applicant. Some authorities on this subject even question the significance or advisability of personal interviews. In fact, one medical school has, in a small way, compared the progress of medical students who were selected following personal interview and others who were selected on the basis of academic achievement and references and in this small experiment found that, according to their interpretation, greater success was achieved by students who were not interviewed. The men best qualified to pass judgment on the evaluation of a premedical applicant are the premedical teachers who have had opportunity to watch these applicants over a period of from one to four years. If the members of a premedical advisory committee are honest and objective in their evaluation, they are the ones who are in a position to advise as to which of their students are best qualified not only as to academic progress but also, and just as important, as to character qualifications. After all the qualifications necessary to assure the development of a good physician are the same qualifications with minor adjustments that will assure success in most professional fields.

THE MEDICAL SCHOOL CURRICULUM

There was a day, when the preclinical department boosted their responsibilities, the junior medical students, up into the care of the clinical departments, washed the grime of the labor of basic scientific indoctrination off

* Muslir-ud-Din Saadi (1184-1291).

their hands and then, in the enthusiasm of tackling a fresh batch of students, promptly forgot all about those who had so recently passed through their classrooms and laboratories. Today, the responsibility of basic science or preclinical departments must continue not only through the junior and senior years but also into the graduate years. This might be considered as a "vertical" correlation of instruction.

From the moment that the field of medicine becomes too large for the comprehension of a single person, at that moment departmentalism becomes evident. It is a wise medical faculty which appreciates that its first responsibility to the student is to teach the science of medicine and not the science of biochemistry or anatomy. The shortness of time during which the student is exposed to these courses makes it imperative that the faculty select their instructional material most carefully.

The lack of "horizontal" correlation between subjects taught concurrently results in a great waste of time and lack of integration and cohesion. Certain color pictures are made by a superimposition of three or four basic uniform color prints, any single one of which gives a very incomplete picture in itself. It would be time consuming and inadequate to try and visualize the finished product by studying, in turn, each of the uniform color prints. Yet after a fashion this is the method of instruction utilized by certain departments that are not conscious of the need for close correlation between themselves. For example, how inadequate to study the structure of the stomach in the anatomy laboratory and then at a different time and place restudy the physiology of this same organ. By combining the study of structure and function not only is precious time saved but, more important, the final picture is clearer and more complete.

The curriculum of instruction for the clinical years undergoes constant change. Time devoted to diseases that once were a scourge should be diminished as the mortality and morbidity importance of these diseases decline. Twelve years ago, the winter months saw wards filled with cyanotic, coughing, dyspneic patients, victims of that winter killer—lobar pneumonia. Now a true lobar pneumonia case warrants immediate student demonstration. Infectious diseases are slowly being brought to rein and at the head of the mortality list stands degenerative vascular diseases and cancer. These changes necessitate constant curricular revisions. A greater portion of the long hours of study devoted to red and gray hepatization are now much better devoted to coronary artery disease and the malignancies. With the life span being increased, the specialty of geriatrics assumes even greater importance.

"Clinical Clerkships" are fast replacing long hours of classroom lectures. This is good pedagogy. I remember very little of my classroom lecture on the catatonic phase of schizophrenia but indelibly recorded in my mind is the schizophrenic girl with mask features who held her arm fixed in any position my instructor moved it. Bedside instruction for small groups of students permits the asking of questions and individual instruction not possible in large classroom lectures.

What provision does medical education make to aid the student in appreciating the fine art of physician-patient relationships? How does one approach Mrs. Murphy to inform her that she must have her breast removed because of a malignant growth? A graduate may give a scholarly discussion of the diagnostic interpretations of a bleeding nipple or the fine points of differentiation between a scirrhous carcinoma and an intracystic papillary adenocarcinoma, but may be nonplussed and crude in his attempts to discuss the situation in simple practical terms with the patient.

Appreciating the weakness of this link in medical education, we have inaugurated a student apprenticeship service during which time the student is assigned to a local physician and follows him through his day's activities. Each student serves a certain period of time with three different men and instructions to the preceptor physicians emphasize the purpose of this program and indicate that academic medical instruction should not be stressed but rather that the student apprentice be given every opportunity to observe the physician-patient relationship. The experiment is working out better than I had expected, with excellent cooperation from the preceptors who, in some cases, have taken their afternoons off to instruct the students in office filing systems and medical bookkeeping.

Reference was made in the discussion of the preclinical curriculum to the need for "horizontal" correlation between basic science departments. This is just as important in the clinical years. There is a great tendency for the junior or senior student to think only in terms of surgery while on this service and psychosomatic medicine while on psychiatry. Departmentalization is a serious pedagogical error. In an effort to correct such narrowness in thinking, the St. Louis University Hospital is beginning to plan along lines of functional units. For example, our pediatric heart clinic falls under the direct jurisdiction of neither the department of medicine nor pediatrics. It is staffed by a basic functional team of a pediatrician trained in child heart diagnosis, a surgeon trained in congenital cardiovascular surgery and a radiologist familiar with the diagnostic problems of pediatric heart disease. These men have torn down the boundaries of departmentalism and students are influenced to think in terms of whole functional units. We cannot afford to forget that the subject matter of interest to the student should be the patient rather than any artificial division of the patient created to suit the convenience of a school of medicine or hospital.

In spite of the efficiency and excellence of our university hospitals which have become the envy of our medical brothers the world around, there are still many shortcomings which bear close watching by medical educators. A student, in his clinical years, gains a rather distorted notion of the relative frequency of disease entities and their importance. Rare and difficult cases are apt to become his daily fare. He does not stop to think of minor ailments which do not require hospitalization nor does he think of the partially disabled chronically ill who make up a large percentage of those ill but are not admitted to hospitals because little can be accomplished, therapeutically

speaking. Following a residency in surgery, a student may be quite competent to resect a stomach but may be troubled at the prospect of stopping a persistent nose bleed.

Another distortion in the training facilities of a hospital is the fact that the sick cannot be studied in their normal environment. Ideally, the medical student should follow up his hospital cases by visits to the patients home environment. Who of us have not heard physicians give advice to patients which could not possibly be carried out? The millionaire manufacturer and the "white collar" shoe clerk look very much alike devoid of their environmental trappings. Their peptic ulcers may look exactly alike under the fluoroscope. Yet, while one can easily afford a trip around the world to ease his nerves, the other cannot even afford a trip to the nearest pleasure resort. The clinical clerk who studies both these patients must learn to look beyond the antiseptic beauty of a hospital floor.

There never was an age in the history of man when students of medicine could look forward into such vast avenues of future possibilities. The exhilaration concomitant with medical progress rushes us on at a pace that sometimes makes significant past discoveries seem relatively unimportant. Though we look into the future, we must not forget the past and use each rung of discovery in the ladder of medical science. We might do well to remember that the physicist John Tyndall noted and described in 1876 for the English Royal Society "the struggle for existence between bacteria and the penicillium."

Development of Research

Philosophy, as Plato tells us, begins with wonder; and, staring open-eyed at the starry heavens on the plains of Mesopotamia, man took a first step in the careful observation of Nature, which carried him a long way in his career. But he was very slow to learn the second step—how to interrogate Nature, to search out her secrets, as Harvey puts it, by way of experiment. The Chaldeans, who invented gnomons, and predicted eclipses, made a good beginning. The Greeks did not get much beyond trained observation, though Pythagoras made one fundamental experiment when he determined the dependence of the pitch of sound on the length of the vibrating cord. So far did unaided observation and brilliant generalization carry Greek thinkers, that there is scarcely a modern discovery which by anticipation cannot be found in their writings. Indeed one is staggered at their grasp of great principles. Man can do a great deal by observation and thinking, but with them alone he cannot unravel the mysteries of Nature. Had it been possible the Greeks would have done it; and could Plato and Aristotle have grasped the value of experiment in the progress of human knowledge, the course of European history might have been very different.—(Wm. Osler: *Man's Redemption of Man*. Paul B. Hoeber, Inc.—New York. 1910, p. 10.)

Medical Education as Education*

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Contemporary discussions of curricula and educational practices, like those of an earlier day, persist in maintaining a sharp distinction between general and specialized education, or, between liberal and vocational education, or between cultural and professional education. The unwelcome inference seems inescapable—there are two kinds of education and "the twain shall never meet."

But they do meet just as the East and West are meeting. And, strictly speaking, an experience is educative or it is not. It is educative if it meets three basic conditions: first, if it gives a deeper understanding of life and the physical universe; second, if it develops disciplined or controlled mental behavior; and third, if it sharpens the conception of those values that give substance to human attitudes and design to human conduct.

There is a striking futility in the nice attempts to classify a course in microbiology or microchemistry as being professional or cultural. Similarly, much ink has been spilled in an equally futile attempt to decide whether a course in contemporary drama is liberal or vocational. Microchemistry may be a highly technical course planned to train technicians and to serve research workers. But, suppose the instructor were to maintain that this undergraduate course is designed to reveal to students interested in science the inadequacy of the traditional scientific method and the need for studying the unfolding of new scientific methods. Then, the proponents of general education would seem ready to grant that what was a technical course has been converted into a liberal or cultural course. The course in contemporary drama seems, by general consent, to fall into the cultural group because the assumption is that it is designed to influence the student's theatre tastes and reading habits. But, suppose the course analyzes current dramatic technique for those who hope to write for the radio, screen and stage. Now that which was regarded as cultural has been metamorphosed into a professional or technical study.

The distinction between cultural or liberal, on the one hand, and vocational or professional, on the other, is surprisingly tenuous. However professional the aim of the course in microchemistry may be, its professional values expand or shrink as it stresses or minimizes the fundamentals of scientific methodology. The course in contemporary drama that does not enrich the understanding of the techniques of dramatic writing will have correspondingly less influence on the aesthetic standards of its students. It would seem, then, that the age old war of words was fought to no purpose. It created a dichotomy where none existed, for the practical and the cultural

*Read at a panel discussion on Education for Medicine as a part of a Symposium held in Buffalo, New York, January 27 and 28, 1950.

are really two inseparable aspects of a total experience. Which leads us, I hope, to the basic conclusion, that good medical education is good because it is good education. Further, that it is good education because it meets our threefold prescription: (1) It gives a deeper understanding of life and the physical universe; (2) It develops disciplined mental behavior; and (3) It sharpens values that are the very essence of human motivations.

Medical education is a preparation for social service; it is a preparation for a consecrated life. With the improvement in the standard of living, with the discovery of new knowledge about the chemistry and the psychology of living, with the increasing use of mass media of communication, there will be an ever increasing demand for the service of the practitioners of all the medical sciences. Society is profoundly grateful for the ready response of these professions to this social demand. Medical men know that they may have a theoretical right to refuse to answer the call for their services, but society knows that they will not exercise it because medical education is an education in social responsibility and disciplined behavior.

Because the physician of our day is concerned with health as well as with illness, his education should give him an understanding of the person who is ill as well as of illness itself. Premedical education, for which the liberal arts college is willingly responsible, should, therefore, include adequate studies in the social sciences and humanities as well as in the chemical and biological science. College teachers of psychology will do well to formulate for prospective physicians special programs of study in animal and human behavior, at least as rigorous and comprehensive as the special programs designed for prospective teachers, social workers and personnel officers. Cultural anthropology and ethnology have a distinct relevance as preparation for the practice of the medical arts. Medical preparation, conceived as a study of human biology and human behavior, is both broad and specialized.

The dynamics of education springs from its concern with the process of achieving ends as well as with the ends themselves. Medical education that does not develop a genuine hospitality to purposeful change and that is not pervaded by the spirit of experimentation is not medical education but medical training. And, when we speak of experimentation, we do not refer to the well ordered laboratory exercise in which the well known factual structure is proved once more by carrying out faithfully the explicit directions of instructor or printed manual. We refer, rather, to that kind of teaching which is rich in intellectual challenges, challenges that lead to the formulation of a problem, to the planned search for evidence and to the testing of tentative conclusions in order to establish their tentative validity.

The spirit of experimentation must pervade the process of medical education itself. It must lead to reorganization of subject matter and to a continuing search for teaching procedures in which modes of thinking take precedence over mere memorization of fact. The faculty of the medical school might well extend its responsibility to include the summer vacations in the four year course, or it might contract its 36 months of instruction into three

calendar years and thus give the young graduates longer periods for internships. The faculty might well question the wisdom of continuing the present dissociation of medical school instruction from supervision of the internship. Intimate knowledge of the character of the young doctors' services during their internship may enable the faculty to appraise the procedures by which students are selected, medical curricula are formulated and the course of study is taught. With such a background of experience, the faculty would be in a more helpful position to judge the nature of the dissatisfactions so often voiced by medical students,—the ablest students—, about curricula and methods of instruction.

It is important that the faculty ascertain whether these are well founded grievances or just the gripes that are the inevitable reactions to an extremely rigorous program of education? Students question the wisdom of taking all the work in anatomy in the first year only to forget much of it and then to review, in the later school years, those sections of it that are appropriate to the specialized clinical studies. They ask why basic anatomy, sufficient for their study of physiology, would not be adequate in the first year and this to be supplemented by the anatomy of specific organs, as the added knowledge becomes necessary in special advanced courses. They ask questions of a similar nature about the teaching of histology and pathology, significant questions which, in turn, stem from a basic question associated with the functionalization of subject matter. It may be that the realities of the medical course preclude any such functional organization and that medical students are destined to an alternation of memorization and forgetting, of memorization and reforgetting. But to accept this view is too early an acknowledgment of defeat, for while the medical sciences have been rich and inviting fields for experimentation and research, medical education is still virgin terrain waiting for equally meticulous inquiry into the art of effective teaching of its materials.

The process which educates is a process which liberalizes. Because education is a process, it is, by our very conception of it, never static. What, at any given time, appears as a stage in education is in reality only a phase of a timeless and endless process of evolution toward a destiny shaped by aspirations and faith. To the extent to which medical teaching is a preparation for set practices and fixed relationships, to that very extent does it approximate vocational training for a craft. Medical teaching which prepares the medical practitioner for change, not only in his professional relationships but also in the basic concepts on which his scientific knowledge rests, achieves the stature and the dignity of humanizing education.

Advent of the Graded Curriculum in American Medical Colleges*

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A marked improvement in American medical education occurred in the final third of the nineteenth century. This came from the combined influence of several factors, of which six were prominent, namely: the lengthening of the college session; the establishment by certificate or examination of a minimum preliminary education; the increase in the number of sessions required to be attended before granting the degree of Doctor of Medicine; the introduction of laboratory teaching in addition to dissection; the approach to uniformity of teaching programs by the founding of associations of medical colleges, and the appearance of a graded curriculum.

This paper is restricted to one of the more important of these,—the replacement of the traditional repetitional curriculum by a graded curriculum, first of two, then of three, and, finally, of four sessions. So far as I can find, a careful report of this important advance in medical education has not been published.

EARLY EVENTS

Daniel Drake was the first to suggest, as far as I have found record, that students in medical colleges should divide the subjects of study into two groups to be studied in successive sessions. He wrote in 1831: "I am not prepared to assert, that it would be practicable to class our students into juniors and seniors and have lectures adapted to each division, but I would strongly recommend to every student who visits a medical school to devote his attention, chiefly, during the first course upon Descriptive Anatomy, the Institutes of Medicine and Surgery, Chemistry, Pharmacy, and the Natural History of Medicine; reserving as the great objects for the second course General and Surgical Anatomy, Operative Surgery, Therapeutic Materia Medica, Obstetrics, and Diseases of Women and Children.¹" He offered a resolution advising such a division and it was adopted by a medical convention in 1838.² He repeated this advice in several addresses during the next ten years, and in 1849 he advocated that medical colleges should divide their students into two classes on the basis of the amount of previous medical instruction and that these classes should receive separate instruction adapted to their knowledge.³

During the same two decades two other men advocated a graded system of study. In 1835, Dr. Reynell Coates outlined "A proper order of succession of instruction in the principal branches of a full course of medical instruction" before the Philadelphia Medical Society;⁴ and in 1843, Dr. Nathan Smith Davis (1817-1904) introduced a resolution at the meeting of the New York State Medical Society advocating a graded curriculum in

*Read at the meeting of The American Association of the History of Medicine held at Boston, May 23, 1950.

medical colleges, according to his statement made many years later. Careful reading of the printed transactions of that society for 1843 and for neighboring years discloses no reference to such a resolution, probably because it failed of adoption.

Penn Medical University, an eclectic institution, was founded in Philadelphia in 1853 with Dr. Joseph Skelton Longshore as dean. It introduced a "progressive system of medical education" beginning with the session of 1854-1855. The subjects of the curriculum were divided into four groups, with instruction in each group during four months, the students taking the groups in succession. The first and second groups were pursued in one calendar year and the third and fourth groups in the next calendar year.⁵ This was a graded curriculum extending through two years, and it was the first graded curriculum to be put into operation in the United States. The program was continued until 1864, when the institution suspended because of difficulties arising from the Civil War. The language of the catalogues during ten years indicates that this program was required of all students, although a categorical statement of requirement is lacking.

The St. Louis College of Medical and Natural Sciences was chartered in 1855 with the first session of instruction in 1855-1856. The curriculum was almost a duplicate of that of the Philadelphia institution. Students were divided into two classes, designated juniors and seniors.⁶ This was definitely a required graded curriculum of two sessions. Four of the eight members of the faculty had taught in medical institutions in Germany and Austria. The name of this institution was changed twice, and this program of instruction was continued under the name of Humboldt Medical College until it suspended in 1869.

The catalogue of the summer session of Harvard Medical School for 1858 carries on page 9 the following: "The faculty recommends to students . . . the selection of certain branches during the first two years to the exclusion of others. Thus they advise that the first year should be mainly devoted to Anatomy and Physiology, Chemistry, Pathological Anatomy, Surgery and Dissection. In the second year they advise the study of Theory and Practice, Midwifery, Diseases of Women and Children, Medical Jurisprudence, Materia Medica and Pharmacy, Diseases of the Eye and Ear, Clinical Observations in the Hospital, and the continuance of Dissections. The third year should be devoted to a review of these branches or of such of them as the student feels himself least acquainted with." This statement was accompanied with a list of textbooks and reference books for the studies of each year. This outline of an advisory course of study was the first advocacy of a graded curriculum extending through three sessions, and it continued to appear in the catalogues until the catalogue of 1864-1865. The foregoing quotation is a duplicate of a paragraph of the by-laws of the faculty adopted early in 1858.⁷

Dr. Nathan Smith Davis became a professor in Rush Medical College in 1849. He advocated reform in the teaching methods of that institution,

including a graded curriculum, and he urged his proposals during ten years, although steadily opposed by older members of the faculty. He, with two colleagues, resigned in 1859 to found a rival medical college in Chicago under the name of the Medical Department of Lind University. The name was changed to Chicago Medical College in 1864, which became the Medical Department of Northwestern University in 1869.

Dr. Davis was considered to be the founder of the new institution. In 1877 he wrote that it "was organized for the express purpose of testing the practicability of establishing a school with a thoroughly graded and consecutive system of instruction." The subjects of the curriculum were divided into two groups designated as junior and senior. This offered a graded curriculum of two sessions, and all new matriculants were required to follow this graded plan.⁸ Current medical journals in editorials expressed doubt of the feasibility of the program and some comments were adverse and derisive.⁹

None of these advocates mentioned previous writers on the subject. The foregoing record of early events shows that the idea of the graded curriculum arose independently in Cincinnati, Philadelphia, St. Louis, Boston and Chicago prior to 1860.

THE SECOND PHASE

One of the major purposes of the founding of the American Medical Association in 1847 was improvement of medical education. The accomplishment was meager during twenty years. The Association called a conference of medical teachers in 1859, which achieved "no tangible result."

A resolution was adopted at the meeting of the Association in 1865 advising a meeting of deans of medical colleges. Approximately twenty deans met in Cincinnati in May, 1866, and spent two days in debating the rate of tuition, with no consideration of the curriculum. The American Medical Association, at its meeting of 1866, appointed a committee to arrange a conference of medical teachers. Representatives of seventeen medical colleges met in Cincinnati in May, 1867, and organized the Medical Teachers Association, which adopted a program of reform including a required graded curriculum of three sessions. The American Medical Association, meeting in the same city a few days later, approved the program unanimously.¹⁰

A circular letter was sent to all medical colleges in August, 1867, advocating adoption of the program to become effective for the session of 1868-1869 and stating that it could not be successful unless a considerable number of institutions agreed to adopt it. The response was negligible. Chicago Medical College put into operation for the session of 1868-1869 an optional graded curriculum of three sessions in addition to the required one of two sessions already effective. This double curriculum continued in this medical college through the session of 1873-1874, when the curriculum of two sessions was abandoned.

A few medical colleges offered an optional graded curriculum of three sessions beginning in 1869-1870, 1870-1871 and 1871-1872. Optional

graded curricula were offered by many medical colleges during the following twenty years. These had little influence in improving the quality of instruction in the medical colleges because the number of students who selected the graded curriculum was negligible. A few institutions, in their published list of students, separated those taking the graded curriculum. The number was rarely more than two or three in an institution at the same time. Not until a medical college required all new matriculants to adopt the graded curriculum was the effect of improvement noticeable. Therefore, I do not give a chronology or statistics on offerings of the optional graded curriculum.

THE HARVARD PLAN

As already stated, the faculty of Harvard Medical School had advised its students in 1858 to divide their studies into three groups in successive sessions.

Charles W. Eliot became president of Harvard University in 1869. Much evidence indicates that he was the one who proposed a required graded curriculum for Harvard Medical School. The medical departments of Columbia University and of the University of Pennsylvania declined invitations from the faculty of Harvard Medical School to join in inaugurating a graded curriculum together with an extensive lengthening of the session. Members of the faculty of the Harvard Medical School were divided in their opinions on the question. President Eliot, in his annual report in the summer of 1870, stated regarding the medical school: "The course of professional instruction should be a progressive one covering three years." Statements made by him several years later show that he was not aware of the optional graded curriculum of three sessions then in operation in the Chicago Medical College. The question was discussed both by the medical faculty and by the Board of Overseers of Harvard University during several months, and finally the authorities, in the early months of 1871, decided to put into effect a graded curriculum of three sessions to be required of all new matriculants in the session of 1871-1872 and thereafter.

This was the first required graded curriculum of three sessions to be put in operation in the United States. The students in Chicago Medical College at this date still had the option of a graded curriculum of two sessions or one of three sessions.

Harvard Medical School was a prominent institution and the Harvard plan brought discussion in medical journals and in several medical faculties. It received more notice than the graded curricula of two institutions that had suspended or of the double curriculum in operation in Chicago Medical College. The catalogues of several medical colleges in 1872-1873 mention the "Harvard Plan."

I have used the phrase "graded curriculum," although the word "graded" was not used to describe this method of teaching until 1876. The first use of this word in this connection is in the catalogue of Chicago Medical College for 1876-1877. It was also used by Dr. Nathan Smith Davis, dean of that

medical college, in an address given in 1876 and printed in 1877. After 1877, the use became general.

Several phrases appear earlier, such as "consecutive system," "serial order," "systematic order," "division of studies," and "successive order." The phrases more commonly used included the word "progressive," such as "progressive method," "progressive order," and "progressive system of teaching."

THE AMERICAN MEDICAL COLLEGE ASSOCIATION

Representatives of twenty-two medical colleges met in Philadelphia in June, 1876, and decided to found an association of regular medical colleges. A resolution was adopted recommending that all medical colleges should offer an optional graded curriculum of three sessions. The organization was completed and a constitution adopted in Chicago in June, 1877.¹¹ Many considered this a revival of the Medical Teachers Association of 1867. The association had thirty-three members in 1881.¹²

Dissensions arose. One member college was expelled and two other member colleges were disciplined for violation of provisions of the constitution. Three prominent member colleges resigned, and after the meeting of 1882 the association became dormant.

PRIORITY IN INAUGURATION OF A REQUIRED GRADED CURRICULUM OF THREE SESSIONS

The catalogues of medical colleges of the nineteenth century are replete with claims of superiority and priority, many of them invalid. Several institutions claimed in print to have been the first to adopt a graded curriculum. Some of these claims are based on the offering of an optional graded curriculum. These claims bring confusion into the history of American medical education. Therefore, I have examined the files of catalogues of 152 medical colleges that operated at some time between 1850 and 1900. This entailed the inspection of more than 1,500 catalogues.

Prior to 1880, ten medical colleges put into operation a required graded curriculum of three sessions. The dates of the first sessions in which this was required of all new matriculants follow the names of the institutions, which were as follows:

Harvard Medical School, 1871-1872; Chicago Medical College (Medical Department of Northwestern University), 1874-1875; Medical Department of Syracuse University, 1875-1876; Woman's Medical College of New York Infirmary, 1876-1877; Medical Department of Boston University, Medical Department of the University of the Pacific (later Cooper Medical College), and Medical Department of the University of Pennsylvania, 1877-1878; Medical Department of the University of California, 1878-1879; New York Medical College and Hospital for Women and Medical Department of Yale University, 1879-1880.

Seven medical colleges put such a requirement into effect in the session of 1880-1881, four of them being in the state of Michigan. Sixteen addi-

tional institutions made this program effective from 1881-1882 to 1889-1890 inclusive. One hundred and thirty-nine medical colleges were in operation in 1889-1890, and 76 per cent of these were still using the repetitional program that had been traditional during 125 years. Some of these colleges were offering an optional graded curriculum of three years.

OPPOSITION TO AND ADVOCACY OF THE REQUIRED GRADED CURRICULUM

Advocacy of continuance of the repetitional curriculum came almost entirely from the older men, influenced by tradition of the program under which they had been educated. An examination of the discussions by these opponents finds two arguments frequently recurring. One was that medical students needed to listen to the same lectures at least twice because the subjects of the medical curriculum were more difficult to understand than the subjects in the curricula of other professional schools, such as engineering, law and theology. The basic reason for such repetition, if it was desirable, lay in the fact that the average medical student had less preliminary education than the average student in the other professional schools mentioned.

The second recurring argument was that the graded curriculum would be more expensive for the student. This argument was specious. A few medical educators stated the real financial relation that led them to oppose the graded curriculum. This was that a graded curriculum would result in laboratory instruction, and the installation and support of laboratories would be expensive and leave a smaller surplus at the end of each session to be divided among the professors, which was the only source of their recompense. A few men opposed the graded curriculum because it was a European program, and argued that it would be unpatriotic to adopt it in the United States.

The advocacy of a required graded curriculum came from younger men. Recent graduates of American medical colleges began to go to Europe for further study in the eighteen fifties, a tendency accelerated after the Civil War. These young graduates found a graded curriculum in European medical schools and also laboratory courses in chemistry, physiology, histology and pathology. They returned to the United States convinced of the value of individual laboratory instruction.

The only way that laboratory courses could be given under the repetitional system was in optional supplementary sessions. Supplementary spring sessions began to appear about 1870 in many medical colleges. The men who attended laboratory instruction in these spring sessions found it valuable.

The younger men who had gone to Europe soon after returning came to be members of the teaching staffs, and when they came to have more influence in the faculties they urged that a required graded curriculum be installed, including laboratory courses, so that all students could have the advantage of individual laboratory instruction, something impossible in the regular session of the repetitional program. An examination of the per-

sonnel of the faculties of those institutions that early adopted the required graded curriculum, shows in each case a considerable number of men who had studied in Europe.

THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES

The legislatures of four states enacted laws in the late eighteen eighties requiring attendance at three sessions of a medical college before the granting of the degree of Doctor of Medicine by any medical college operating under charter of the states concerned. This was the stimulus for a meeting of medical educators in the spring of 1890, at which they decided to found an association of medical colleges. This was considered to be a revival of the association dormant since 1882, although the name was slightly changed. When this decision was reached, it was ruled and published that membership would be restricted to those regular medical colleges that had in operation a required graded curriculum of three sessions.

This restriction and the new state laws were the influences that caused forty-two medical colleges to put a required graded curriculum of three sessions into operation in 1890-1891 or 1891-1892, which more than doubled the number of institutions that had this program in 1889-1890. The great majority of medical colleges had this program in operation by 1895, although a few sectarian medical colleges continued the repetitional method of teaching until 1899-1900.

THE REQUIRED GRADED CURRICULUM OF FOUR SESSIONS

The Medical Department of Boston University offered an optional graded curriculum of four sessions in 1878-1879, the first offering of this program in the United States. This became a requirement for all new matriculants of that medical college with the session of 1891-1892.

Leonard Medical School, the Medical Department of Shaw University at Raleigh, North Carolina, was established in 1882. This institution for colored youth put into operation a required graded curriculum of four sessions beginning in 1885-1886, the first in the United States. The catalogue states as the reason that colored young men had meager opportunity for preliminary education.

Adoption of the required graded curriculum of three sessions was accompanied by a lengthening of the session which permitted installation of laboratory courses. The value of laboratory teaching was soon demonstrated and the desire arose to increase the amount of it. Also the new subject of bacteriology had arisen, which required laboratory instruction. Therefore, in the late eighteen eighties, discussions began looking toward increasing the number of sessions in the medical colleges from three to four.

The next institution after Leonard Medical College to make this change was the University of Michigan which, in both its College of Medicine and Surgery and its Homeopathic Medical College, required all new matriculants entering the session of 1890-1891 to enroll for a graded curriculum of four sessions.

The Medical Department of Boston University followed, beginning with the session of 1891-1892. Three more medical colleges inaugurated the required graded curriculum of four sessions in 1892-1893: the Chicago College of Physicians and Surgeons, the Medical Department of Northwestern University and the Harvard Medical School. Six more medical colleges adopted the new program in 1893-1894. These included three medical colleges for women and also the Medical Department of the University of Pennsylvania.

Several institutions had been offering an optional graded curriculum of four sessions, and in 1893-1894 this was a requirement of eleven medical colleges. With this tendency toward the new program, the Association of American Medical Colleges at its meeting of 1894 amended the constitution so as to require all institutions that were members to inaugurate the required four session curriculum not later than the beginning of the session of 1896-1897.

Thirty medical colleges anticipated this date, and in 1896 the Association had seventy-six members all operating on the plan of four sessions. In addition, fourteen sectarian medical colleges not eligible to membership in the Association had adopted this program, so that in 1896-1897, ninety medical colleges, considerably more than one-half of all medical colleges in the country, were on the plan of four sessions. Each succeeding year brought new adherents to the program. By 1900, the final year of the century, nearly all medical colleges had made the change. The laggards were a few weak institutions, mainly sectarian.

While the transfer from the repetitional curriculum to the graded curriculum, first of two sessions and then of three sessions, had occupied about forty years, the change from the program of three sessions to that of four sessions was completed in about ten years.

REFERENCES

1. Daniel Drake: "Practical Essays on Medical Education and the Medical Profession in the United States," *Western J. M. and Physical Sc.* (Cincinnati, 1831), 5, 11-12.
2. *J. and Proc. M. Convention of Ohio at its Second Session . . . held in the City of Columbus . . .* 1838. (Cincinnati, 1838), p. 17.
3. Daniel Drake: Introductory Lecture at the Opening of the Thirtieth Session of the Medical College of Ohio (Cincinnati, 1849), p. 5.
4. Reynell Coates: Oration on the Defects in the Present System of Medical Instruction in the United States, read before the Philadelphia Medical Society, November 21, 1835. (Philadelphia, 1835), 32 pages.
5. Progressive System of Medical Education of Penn Medical University of Philadelphia and Announcement of the Fall and Winter Session of 1854-55 (Philadelphia, 1854), 16 pages.
6. Circular of the St. Louis College of Medical and Natural Sciences, Session of 1855-56 (St. Louis, 1855), 16 pages.
7. Thomas Francis Harrington: Harvard Medical School, A History, Narrative and Documentary (New York and Chicago, 1905), 2, 537.
8. N. S. Davis, "Report of the Committee on Medical Education presented to the Academy of Natural Science, Jan. 4th, 1861," *Chicago M. Examiner* (Chicago, 1861), 2, 119-20.
9. Elizabeth Carr: "Northwestern Medical School and the Graded Curriculum," *Quart. Bull., Northwestern University Medical School* (Chicago, 1941), 15; 15-20.
10. Frederick C. Waite: "The Medical Teachers Association of 1867," *J. A. Am. M. Coll.* (Chicago, 1950), 25:202.
11. The Association of American Medical Colleges, History of its Organization, its Constitution and Bylaws, Articles of Confederation, and List of Members (Detroit, 1877), 26 pages.
12. The American Medical College Association, Fifth Annual Meeting, Richmond, Va., May 2 and 4, 1881 (Detroit, 1881), 8 pages.

Teaching of Pediatric Psychiatry in a Setting of Medical Clerkships*

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I. INTRODUCTION:

This paper describes a limited aspect of the teaching program by the mental hygiene division of the department of psychiatry in pediatrics at the University of Colorado Medical School. Its emphasis is on certain problems of method of teaching as seen from the standpoint of the experience of a psychiatrist in a general pediatric outpatient department. Its major concern is with teaching pediatric psychiatry to fourth year students in medical clerkships and describes only a part of the first year of that program. As such it has the interest of an experimental approach. Psychiatric consultative services were provided by the authors as an inseparable part of the more comprehensive plan. The authors' objectives were:

1. To teach recognition, appreciation, and understanding of psychological movement and responses in child development.
2. To develop and utilize student skills for dealing with emotional responses of patients.
3. To study methods of psychiatric teaching in pediatrics.
4. To develop a cooperative approach with the pediatric staff for the recognition and handling of emotional needs of children.

II. BACKGROUND:

The assignment of the authors to this project supplements in a somewhat different way the psychiatric program already established in the pediatric department.

Emotional disturbances as a component of somatic illness or as the essential problem of the patient, though disguised in many ways had been recognized and dealt with by the pediatric staff. Patients with more complicated emotional problems were provided with psychiatric service in the conventional manner, i.e., by calling on the psychiatrist in the automatic type of general hospital referral.

This type of consultation is generally adequate in terms of interviews and examinations of child and parent. It provides a descriptive and diag-

*From the Division of Mental Hygiene and the Department of Pediatrics of the University of Colorado Medical Center. Published with the permission of the Chief Medical Director, Department of Medicine and Surgery, VA, who assumes no responsibility for the opinions expressed or conclusions drawn by the author. The opinions expressed in this paper are those of the writer and not necessarily of the Public Health Service.

nostic writeup; it predicts as to the progress and probable outcome, and furnishes recommendations for handling or disposition. Such recommendations, advice, diagnosis, prognosis, etc., are usually helpful to the referring physician by providing a clearer picture of the patient. However, such a referral, by its very nature, contributes to a depreciation of the importance of the patient-physician relationship and deprives the student of the experience of using such a relationship for helping the patient with emotional problems.

It seems to us that such a referral must appear rather impersonal to the patient and foster the dichotomy of emotional and somatic aspects of illness rather than facilitating increased understanding and acceptance of the inseparableness of psychological and physical factors.

From the beginning, our work was made possible through the cooperative and receptive attitude of the whole department of pediatrics. We believed that the project had to be based on mutual recognition and appreciation of each other's problems; that we as psychiatrists had to gain as thorough an understanding as possible of the pediatric point of view if we were to make a valid contribution of psychiatric services and teaching.

III. PRELIMINARY CONSIDERATIONS:

1. We planned to modify the conventional referral and consultation procedure because in our opinion it created a situation in which neither the pediatrician nor the psychiatrist had an opportunity to work with his patient's feelings of rejection and stigmatization, resulting from the referral to a psychiatrist, and because we felt that it deprived the pediatrician of important material by which he could understand and deal with the emotional aspects of illness.

2. We wished to study methods of teaching psychiatric understanding to medical students and pediatric residents and to determine how far they could go in dealing with the emotional problems in pediatric practice.

3. We did not envision teaching medical students to become psychotherapists, nor did we consider that only persons specially trained in psychiatry could or should handle emotional problems.

4. Finally, we felt that here was an opportunity to advance beyond the limitations of conventional academic classroom teaching by presenting psychiatry as a dynamic, useful and learnable instrument, which is necessary if the physician is to be fully equipped to practice comprehensive medicine.

IV. PROBLEMS ENCOUNTERED:

Our teaching was done in the general pediatric outpatient department of the Colorado General Hospital, a teaching hospital of the University of Colorado. The department draws an average of from 800 to 900 patients a month, who represent a cross section of pediatric patients coming from Denver and outlying districts of Colorado.

The patients were of the type usually seen in a general pediatric outpatient clinic serving a medically indigent population, and included many

children with behavior disorders. Only in special instances were patients referred to the Mental Hygiene Clinic.

The staff of the Pediatric Clinic consisted of two pediatricians, one of whom was administratively in charge and responsible to the Professor of Pediatrics. As a rule, there were two residents who served for periods of from one to three months. Senior medical students, in groups of five, were assigned to clerkships for three weeks. Nurses and student nurses were provided by nursing headquarters. The part time services of a social worker and a psychologist were available and utilized. The authors had numerous personal conferences with the social worker, but the contacts with the psychologist remained on an impersonal referral basis.

Each author spent one three-hour morning session weekly in the pediatric outpatient department. At first, we saw patients in the tradition of the usual consultation referral, the only change from previous practice being that we were physically present in the clinic and had ample opportunity to discuss our findings and impressions with the students and pediatricians. This approach seemed indicated because it was expected of us, and gave us an opportunity to become familiar with the needs of the pediatricians. We only changed our approach as we felt that such changes were indicated and would be accepted. One hour of our weekly periods was reserved for group meetings with the students as the main teaching focus. In those conferences, we presented and discussed material which we had gathered from patients during the preceding hours.

These group meetings did not work out too well for several reasons. The most important reason was the continuous demands made on the pediatric staff and students to take care of a large number of patients in a busy general pediatric clinic. This made it impossible for students and residents to attend the meetings consistently as a group except on rare occasions. Students frequently appeared indifferent which we believed due to our difficulty in interesting them in material with which they did not have any personal experience. In several instances, some students showed reactions of annoyance and hostility as though they were reacting to the authors' personalities. We recognized this as a reaction to their unfamiliarity with the concepts presented and to the presence of other pressures of work to which they were exposed at the same time. As we shall point out later, this has been taken into consideration, and changes have been made in the effort to modify these reactions.

In spite of the joint efforts of the pediatric staff and the authors, students still remained inadequately aware of the emotional interplay present in every relationship with a patient and were unreceptive to our efforts to help them utilize such a relationship in a therapeutic sense. Thus, the emotional aspects of the patients tended to remain distinctly different from and unrelated to the pediatric problems.

It had been decided in advance to limit case referrals to the Mental Hygiene Clinic in order to see to what extent patients with emotional problems could be dealt with in the pediatric clinic. Since up to this point the authors

were seeing all cases personally, they quickly accumulated a case load. Seeing a psychiatrist stimulated, as expected, patients for more psychiatric therapy. We recognized that we would soon be seeing only a very few cases in treatment; that our time would be curtailed for new patients and students, and that our contribution to the pediatric teaching program as a whole would be reduced correspondingly.

In the group discussions, we stressed and encouraged active participation by students and staff members and avoided, wherever possible, psychiatric terminology and startling psychodynamic formulations. We endeavored to maintain an atmosphere in which students and staff members could feel comfortable and bring up experiences, feelings and reactions in regard to the cases discussed and others of a similar nature.

We felt that this period of our contacts was particularly helpful as an opportunity to observe in students and sometimes in the staff a questioning attitude about what psychiatry could offer. This gave us a chance to picture the psychiatric approach as a way of utilizing emotional reactions and responses inherent in every human being for the better understanding of and help for the patient.

Interviewing techniques as the working tool seemed like a strange and questionable procedure to the students; they wanted to become familiar with these techniques by sitting in on the authors' interviews. We could not comply with this request because we believe that the presence of a third person reduces the close emotional relationship between a doctor and his patient and considerably changes the therapeutic results. (We recognize that other authors allow students to sit in on interviews as a teaching method.) We suggested that students and residents conduct interviews with their own patients and report about them in the discussions. They were encouraged to become better listeners, to avoid arguments and intellectual persuasion, and to accept patient's attitudes without judgment or criticism. They were helped to try to identify and deal with feelings expressed by their patients.

As students saw more and more patients, we limited ourselves to seeing only unusually difficult cases. We spent the major part of our time in group discussions and in individual supervision of students which seemed to us a more meaningful method of teaching the emotional aspects of illness.

In the course of the group conferences and in some individual conferences with students, which we had added by this time, emotional factors from the interviews with mother and child were brought out and discussed. The students gradually began to observe their patients' developmental and behavioral growth and related this growth to their own and others' experiences.

Students showing real interest in a particular patient were encouraged to follow that patient and were assured of our willingness to help by supervisory discussions. In the beginning, most students were reluctant to try to deal with emotional problems. One of the persistent difficulties was their preoccupation with the gathering of information. They were uncomfortable just sitting and listening to the patient and trying to learn to respond to feel-

ings. These difficulties seemed to be related not only to individual personality differences among the students, but also to their antecedent medical education, the pattern and tradition of which had been to compile facts rather aggressively through questioning and examination and then to give specific prescriptions or advice.

We stressed to the students that they adopt a less active role and helped them recognize that the patient has a great reserve potential for dealing with his emotional problems. The students' difficulties in accepting such an orientation were expressed in numerous remarks such as "If the patient comes here for help and I don't tell him something, he won't come back," or "How can just talking help a patient." We recognized such comments as expressions of the difficulty in accepting new concepts and of anxieties in this new and different way of relating to their patients. We tried to deal with these difficulties in a consistent manner emphasizing that information about emotionally charged material is not what the patient needs, but rather help with his feelings about it.

At first students, in the customary manner, saw parents and children together in the same interview. Although we had recognized that such an approach was, except in the case of a mother with a baby or small child, decreasing the value of the interview, we did not categorically request alteration of the procedure, but in the discussions pointed out the scarcity of the emotional material brought up, as well as the great amount of tension and restraint that was usually evident and could not be relieved under the circumstances.

Gradually, students were scheduled to see mother and child, one after the other, and later, in greater agreement with this approach, two students were assigned to interview child and mother, respectively. This led to increased participation in the discussions because, actually, two students then had some personal experience with the case.

Some students, intrigued with the emotional problems of their cases, expressed increasing interest in their progress. They scheduled subsequent interviews, but because of their limited stay at the clinic, could see them, at best, for only two additional times. Occasionally students planned spontaneously to continue seeing patients beyond their time in the pediatric outpatient department. In such instances, arrangements were made for continued supervision by us. The change of medical students every three weeks made it very difficult for patients to be followed; either cases had to be closed after two or three interviews or frequent changes in assignment became necessary.

After the students had learned to recognize some requests for advice were expressions of anxiety, they felt lost in dealing with these anxieties. The therapeutic effect of a supportive relationship was something relatively meaningless and incomprehensible until they had had an opportunity to try it out themselves. It would have been desirable to have had students observe the results accomplished in interviews by having the opportunity to see their

patients regularly for a longer period of time, but, of course, that could not be helped because of curriculum requirements.¹

As we said before, we did not attempt to teach psychotherapy, but, rather, recognition of how a patient reacts emotionally to situations and his illness. We tried to help students understand that symptoms of the child are frequently related to an expression of anxiety by the mother; and that anxiety is often the determining factor for bringing the child to the clinic.

As this program developed, we suggested more and more active participation by the students in the handling of patients. There was some reluctance and question about some of our procedures among the staff members, although they continued to show genuine interest and willingness to help in establishing this program. These, and many other, problems were met by frequent discussions of differences of opinion, and we tried to accept criticism of what was, of necessity, an experimental procedure on the part of the psychiatrists new to the situation.

On not infrequent occasions, students would amplify presented material by relating experiences of their own. Personality growth as indicated by such observations may be illustrated by the following example:

One of the students rather openly showed unfriendly attitudes towards our program. He became intrigued with the case of a 14 year old enuretic boy whom he had seen. During the discussion, he pointedly criticized every statement made in regard to emotional causes and the suggested handling of the case. Following presentation, he approached one of the authors privately and stated that he himself had had enuresis as a child and had been cured of this habit by his father's "unmerciful beating." Despite his negative attitude, seeing that the student was obviously aroused by his patient's problem, he was encouraged to see him again. After several weeks, he reported with astonishment and noticeably changed feelings that his patient had stopped being enuretic; this had convinced him that there was more to psychiatry than "just talk."

In every group of students there were some who were silently or openly antagonistic and nonaccepting of our discussions. Their remarks were of an extremely critical and attacking nature and, frequently, their presence tended to have a demoralizing effect on the work of the entire group. We felt that problems of this kind would be reduced in the future by a dynamically oriented teaching program throughout the whole medical school curriculum, started for last year's freshman class.

We got the impression that in spite of great variations in individual aptitudes, students were especially interested and successful in dealing with anxieties of mothers of infants or small children and with problems presented in the areas of social, school and sexual adjustment of adolescents. The latter appears contradictory to common observations in child guidance clinics, i.e., that adolescents are most difficult to treat. We feel that this discrepancy

1. We note here that the medical curriculum for the senior students of the following year provided a six weeks' clerkship in the pediatric outpatient department which helped considerably in the handling of emotional problems.

may be explained partly by the fact that students were undeterred in their approach to adolescents by any thoughts about techniques, were unaware of the complexities of adolescent problems, and related to their patients on a friendly basis.

V. SUMMARY:

Looking back we can formulate our observations as follows:

1. In order to teach psychiatry as a meaningful contribution in pediatrics, it was considered necessary to integrate psychiatric services into the day by day functions of the pediatric outpatient department.

2. We stressed the experiential type of teaching and recognized numerous difficulties; of those, we were especially interested in attitudes of rejection and resistance on the part of the students. There were great individual variations in the degree of acceptance of our approach, but we believed that a change of orientation in pre-clinical years might reduce some of the resistances earlier.

3. Students made discoveries about their own emotional responses; these discoveries helped them to recognize that psychiatric problems are everyday human occurrences rather than manifestations of grossly disturbed or psychotic patients.

4. The teaching program aimed at and was partly successful in teaching recognition of emotional factors in illness and utilization of such factors by the student in handling patients.

5. The usual difficulties were encountered in integrating the psychiatric program with the total program of the department. One helpful aspect in overcoming these difficulties was a continuing growth in mutual understanding of these problems by both the supervisory pediatric personnel and the psychiatrists concerned.

6. We were not concerned with the teaching of psychotherapy and limited the therapeutic approach to an understanding of feeling responses in the patient, the situational sources of emotional disturbances, and the process of giving emotional support.

7. We found that additional psychologic services would have been helpful, but it would have been even more important to have additional casework assistance, particularly oriented to the job of teaching.

8. We felt that the pediatricians and students recognized a greater number of emotional problems in their patients and, as a consequence, their patient load with this type of problem increased. Nevertheless, it was found that referrals to the Mental Hygiene Clinic from the pediatric outpatient department could be reduced as planned at the outset, because of the pediatrician's better acceptance of and ability to deal with personality manifestations.

Sketches of Medical Education

I—QUIZZES AND LECTURES

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The medical student has less choice than the high school pupil to select his curriculum. Everything is predetermined for him by paternal authority, his school hours, his quizzes, his daily assignment. If, for any reason, he has been absent from classes, he must account for his time, secure the signature of all the instructors he had the good fortune of not listening to that day, and file documentary evidence of his absence in the Dean's office. What may seem to be the correct procedure for grammar school pupils is simply degrading for the man who is preparing himself for a professional mission. Whatever his will or his initiative, he is told that in order to become the perfect specimen of the doctoral phalanx, he must sit patiently so many thousands of clock hours and listen to bored men who mechanically repeat the latest events of the march of science from what is neither a pulpit nor a soap box.

What can be done about it? I am not a reformer nor a pioneer. In this presentation I will deal with quizzes and lectures which are, after all, the backbone of medical pedagogy.

QUIZZES

The real aim of quizzes is lost in the battle of wits. An instructor looks for questions which will challenge the student's mind in order to make known to the student how much he does not know that he should know. The student is left with one aim in mind, that is, to outwit the instructor and win a passing grade. At the end of the test the instructor knows less than before about the efficiency of his teaching methods and is ready to shift part of his blame on the students who failed to absorb the cultured speeches which he is delivering with so much labor. This is the fallacy of teaching. Neither the instructor nor the students gain any understanding of each other.

For some years I have changed the system of quizzes in the courses I am teaching. At the beginning of the course, I reassure the students that I will not do anything to upset their credit points and that any question they address to me will not result in any rash formulation of opinion about their scholarship. I ask them to study the subject not with the test in mind, but with the view of learning for their own benefit, and to write down while they study the questions which they have not understood or they wish to elucidate further. In submitting their questions I ask them to be just as fair to the instructor as they wish the instructor to be fair to them. It is usually pleasantly surprising to discover how many intelligent questions and new ideas are submitted at the time of the quizzes. I read the questions to the class and ask for a volunteer to answer them. The student who offers to give an answer speaks to the class

and replies to objections which may be raised. If there is anything to add or to correct, I take part in the discussion.

If there is not a volunteer to answer a question, I realize immediately that I am the one who has failed to put the matter across to the students, and, therefore, I explain it again in detail.

Quizzes conducted in this way do not carry credit, in order to release the students from the fear that their questions or answers may be counted against them on the grade sheet.

Why should there be any credit if, after all, only the end results count? A man is judged for his final knowledge not for his past ignorance. What do credit points mean if a man, whether graduated with an A or a C, is allowed to practice medicine in all its branches with no other restrictions but those put on him by his own conscience or knowledge.

From the questions addressed during the quiz, as well as from the answers given by the class, the instructor may be able to formulate his own judgment of the level of maturity and of interest in learning of his students. Because of the friendly feeling prevailing at the time, and the informal character of the quizzes, the instructor gets into intimate contact with his students and has the advantage to influence them in the pursuit of their studies.

In one class I was asked by my students—half in jest and half seriously—whether I would tell them what would be the examination questions. I promised that I would. The next period, I asked about one hundred questions which covered the course I had given. At the end of the period, I told them that ten of the one hundred questions would be asked in the final examination and that since they had replied well, there was no doubt in my mind about the outcome of the examination. Freedom from compulsion, freedom from fear and freedom from cathedraic conventionalism go a long way to reassure the students that the only aim in a medical school is that of learning for life in an environment of friendly competition and mutual respect.

This method is really a quiz of the instructor by the students and fulfills the didactic aim which is that of clearing away ignorance and doubts. For a competent instructor it may serve to increase prestige and trust among his students.

LECTURES

The controversial issue whether lectures should be discontinued and replaced by practical demonstrations or should be continued in the traditional form is not to be solved in any satisfactory way at present.

A good lecture by an eloquent speaker will, no doubt, stir the mind of young students. On the other hand, a lecture read from an instructor's book in a monotone will not produce any effect. Knowledge—as Professor Morgan remarked—goes from the notebook of the instructor to the notebook of the student without passing through the mind of either one.

I prefer and use the socratic method. The dialogue brings out thoughts, objections and points which had not been incorporated in the teaching outline.

I save time by speaking sparingly about obvious matters and take the opportunity to discuss more important points at the intellectual level of the students. If the students can answer by thinking and reasoning, I refrain from suggestions. Suggestions of an instructor are thoughts which once translated into words assume the character of an order and restrict the thought process and the mental evolution of the student. There are times, however, when either because of lack of knowledge or of inability of analysis on the part of the student, there is no alternative but a straightforward interpretation of the subject matter. During lecture, an instructor should not limit his work to a recitation of the textbook, but should present a broad review of the literature. An extemporaneous speech is never as good as the well thought clear exposition of a textbook. The student becomes bored at hearing someone repeating poorly what he is capable of reading directly at the source. A lecture which adds nothing to what is already contained in the textbook is definitely a poor lecture. The student should be excused for sleeping, for yawning or for finding a means of relaxation during the fifty minutes of this type of lecture.

I am a firm believer in details. They seem to be superfluous ornaments, particularly in an era of medical education in which a student is asked to learn so much. But at closer examination, the details serve to make more lasting the mental image and to enhance the central theme. A denuded outline is more difficult to absorb than a detailed description. We probably assimilate an approximate 1 or 2 per cent of what we read or hear, and it is only through the effort of repetition that we may retain more. But, if the material is well documented and the audience has participated in the process of building it up, one single detail will initiate an association of ideas which helps reconstruct the entire subject in the mind of every listener.

The advantages of the socratic method are obvious. It dispenses with the heavy formality of a traditional lecture, it includes the active participation and it keeps awake the attention of the audience. As a by-product, the instructor will know the intellectual level and the potential abilities of his students.

Principles of Scientific Teaching Film Production

With Special Reference to the Medical Film.

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1. THE GROWING IMPORTANCE OF TEACHING FILMS

Films assume an ever increasing importance in medical teaching. They are the third link in the chain: textbook, lecture, film. These three elements of scientific and professional teaching may be termed "the theoretical teaching media" as opposed to the laboratory exercise, the apprenticeship, the internship and similar "practical teaching media." The film, because of its visual and dramatic impact, will assume greater and greater prominence in the theoretical teaching process.

Verbal descriptions and discussions, such as provided by textbooks and lecturers, have great flexibility of thought. This is a strength, but also a weakness; for textbooks and lectures can, unfortunately, afford to be vague in many instances, can cover gaps of knowledge with plausible words. As an example, we may mention a textbook of parasitology which states that a cercaria penetrates the skin, shedding its tail, and finally reaches the liver. The words "penetrates," "shedding" and "reaches" seem satisfactory descriptions of specific processes to the author and the reader, to the lecturer and to his audience. In a film or film strip, when pictures have to tell the truth, these verbalisms do not help. The film must be specific and exact. "Penetrates" becomes a series of boring movements, of lytic gland activity, of tearing and of peristalsis. "Reaches" becomes an animated chart of the vascular system, pointing out the exact route and the mode of locomotion of the metacercaria; and here we are at a loss; for the exact route is not yet known, nor is the manner of locomotion. Equally unknown is the mechanism of "shedding" the tail.

This example may illustrate the fact that a teaching film cannot be produced by compiling data from the literature because, by virtue of its visual nature, it must be more specific and more exact than textbooks and even monographs. Thus, it is necessary that the producer, whose primary source of information is usually the literature, be able to recognize verbalisms as such and to evaluate their conformity or non-conformity to nature. He must be able to fill the existing gaps of knowledge by conducting or, at least, by suggesting to others the necessary research to clarify these questions.

Thus, film production, undertaken for the simple purpose of teaching, with the intention only of visualizing well established matters, inevitably leads to discovery of new and often important facts. It may lead automatically to the clarification of large fields of knowledge. Thus, for example, the recent production of a film strip on the microscopic structure of the human liver led to a complete revision of our knowledge of liver architecture. For 99 years, it

was believed that the liver was built of cell cords. This concept has been maintained by mere verbalisms. It had never been documented pictorially. Film production revealed the unexpected fact that the human liver is fashioned of cell plates instead, and that the past theory presented the negative image of nature. The mode of terminal branching of the portal vein and of the hepatic artery had not been known, nor had enough anatomists found it worthwhile to investigate this question. These gaps in our knowledge of the most important gland in our body had not been noticed by specialists, for they were well bridged by words. Suddenly, the production of a film strip clarified the situation, modifying fundamentally the science of the liver¹. This is only an example, illustrating the influence which films can have not only on teaching but also on basic science.

The verbal description is a transcription from the form to the text. When this text is read or heard, the reader or listener will mentally reconstruct a form. But each individual reader or listener will reconstruct a different picture in his mind. And none will be able to visualize the exact form about which he has read or heard. But the film can show the actual form, the actual movement immediately and without any distorting detour.

Pictures, and particularly pictures which are projected in the dark, have a much greater memory impact than words. They are direct. This is the reason for the learning impact and for the effectiveness of the film. The film is far more powerful than the text (written or spoken). For these same reasons, a film containing inaccuracies and misrepresentations is much more dangerous than an inaccurate lecture or book can be. Therefore, it becomes imperative that the producer be a scientifically mature person, able to avoid dogmatism. Avoiding dogmatism in pictures is much more difficult than avoiding it in speech or writing.

A scientific film designed for teaching should, therefore, never be released without consultation with the foremost experts in the field. Even if the producer is an authority in the subject matter himself, he should still seek advice from his colleagues and possibly from the opponents of his own viewpoints. Story conferences and previews among specialists can become the most stimulating seminars and can promote progress of scientific thought among the consultants.

The didactic strength of the film and film strip places a great responsibility on its producer. Since films can be more powerful than books and speeches, their production imposes obligations of knowledge, experience and ability on the producer, greater than that required of the author of a textbook and of a teacher.

2. THE NOVELTY OF THE FIELD

Visual education is as old as teaching. Drawing figures with a stick in the sand, black board drawings, charts, models, even gestures, belong to this field. But the film is a recent invention. Originally created for the study

1. Elias, Hans: A re-examination of the structure of the mammalian liver, I. Parenchymal architecture, *Am. J. Anatomy*, 84; No. 2, March, 1949; II. The hepatic lobule and its relation to the vascular and biliary systems. *ibidem*, 85; No. 3, Nov. 1949. The liver cord concept after 100 years. *Science* 110: 470-472, 1949.

of the physiology of movement, the motion picture soon became commercialized and acquired a questionable reputation. It took decades to overcome this prejudice and defamation. Thus, the teaching film is younger than the motion picture as such.

In spite of the fact that a number of eminent scientists have made ample and competent use of the films as a research tool and as a teaching medium; in spite of the existence of a few scientists who have devoted their lives to the creation of teaching and documentary films, the number of persons really qualified to produce teaching films of high caliber is still very small. This is due to the fact that the field is young and that no formal courses are offered by any university for the training of scientific film producers.

3. SOURCES OF TEACHING FILMS

During and immediately preceding the second world war, the armed services and other government agencies, saw a need for the creation of training films. Since adequately prepared personnel was not available, a substitute procedure was established by coordinating the efforts of advertising specialists, teachers, commercial film producers and subject matter experts. While this procedure was justified in an emergency situation, it is not the best way to obtain optimal results. Particularly in the field of medical education, the film must aim at understanding. For the student of medicine, the "know why" is more important than the "know how." The teaching film arises from a teaching need and from a learning need. In other words, the originators of the teaching film are the teachers and/or the pupils.

In an effort to visualize on film any process or any body of facts, actual learning or teaching experience are indispensable. And, there is no substitute for them. Cooperation of lay filmmaker and technical expert cannot possibly take the place of the one mind which has struggled with the subject in understanding and teaching, which is deeply interested in the subject and its visual presentation, and which is also personally interested in the education of the students.

4. QUALIFICATIONS FOR THE PRODUCER OF SCIENTIFIC FILMS

In order to view the requirements for the producer of medical teaching films in perspective, it may be well to remember that we are speaking here only of teaching films, i.e., films which are produced for the chief (and often sole) purpose of imparting knowledge or an attitude to those who want to learn. Films produced for the purpose of reporting facts, procedures and experimental results to colleagues, and, films which serve as a research tool are excluded from this discussion, in spite of the fact that, frequently, they can be well incorporated into a curriculum.

Considering the growing importance and the impact of the film in scientific teaching, the same minimum qualifications should be demanded from those who produce scientific and professional teaching films as are required from those who write textbooks and who teach.

A person directing the production of these films, destined for the level of colleges, universities and particularly of medical schools, and for the post-

graduate level, must be thoroughly familiar with the subject matter. His knowledge and understanding must exceed by a very large margin the knowledge of those to be taught. As the authors of textbooks have made original contributions in a certain, limited area contained in the textbook but not in the area of every chapter, the producers of teaching films should not be obliged to have done original research in the area of every individual film, but they must have conducted original observations at least in related fields. In the realm of clinical medicine, clinical experience is the equivalent requirement. In other professions, similar analogous experiences are necessary.

Teaching films as well as textbooks and lectures arise, as has been said, from a teaching need. It is only reasonable to assume that a person producing teaching films be familiar with those teaching needs, from practical classroom experience. Only repeated efforts to explain certain phenomena or processes to students give the teacher insight into more effective and more instructive ways of explanation. Blackboard drawings, improved from year to year, models and the demonstration of experiments and cases are the preliminary steps for the creation of teaching films of truly instructive value. Again, it is not necessary that the film producer has taught the subject of every individual film. But he must have extensive learning and teaching experience in subjects of the same kind, and on the same level at which the films are directed. Moreover, continuous classroom practice should be provided for those who have made teaching film production their profession. They should never lose contact with the teaching situation.

The most important factor is, perhaps, an attitude, the desire to teach a particular subject, a desire arising from the knowledge of its importance within the framework of medical education. Enthusiasm for the subject is as necessary to film production as to the writing of a book. Assignment of a subject which is unknown to the film producer can, even with the best technical advice, not take the place of this enthusiasm. The producer of a teaching film must combine research or clinical and teaching experience with the ability to visualize complicated matters. A proficiency in drawing and sculpture are, therefore, additional requirements which qualify a person for work in this field. Since the production of films involves, to a great extent, photography and motion picture camera technique, it is necessary that the person in charge of such production be thoroughly familiar with photography and camera technique.

Teaching films in a scientific area pose many problems with which the average photographer and cameraman cannot be familiar. Time lapse and slow motion cinematography, microscopic photography and motion picture technique, surgical photography and cinematography, as well as photography and motion picture work in any area outside of everyday life, cannot be executed competently, unless familiarity with both the subject and the technique are combined in one individual, or unless a nonscientific photographer or cameraman works with the scientist-teacher-artist in closest cooperation, the photographer or cameraman depending greatly on the experience of the

"director." But, the "director" himself must have ample knowledge of photography in order to direct the cameraman competently.

Scientific photography and camera work is frequently very much different from "life photography" in respect to magnification, lighting, distance and other factors; therefore, it is often necessary to devise new combinations of the optical equipment. It is also necessary that the producer be aware of the potentialities as well as of the limitations of the optical instruments. Consequently, familiarity with the fundamentals of optics is another important qualification for the scientific film producer.

Last, but not least, another quality is needed, which is the most subtle of all, and the most difficult to define: It may be termed (rather inadequately) the dramatic ability. This includes the ability to transform scientific facts into a coherent pictorial story where each scene develops logically from the preceding, an ability to dramatize and to create suspense. This does not mean that medical information should be interwoven with a love drama. It is not as easy as that. To the medical film producer, his subject has inherent drama. There is suspense in the invasion of an organ by pathogenic organisms and the immunological reactions of the infected area and of the organism as a whole. It can be assumed that the majority of those who choose medical film production as a career possess an inherent dramatic interest. But, much of what may be lacking can be taught and can be learned in courses on film writing. Clearly, the profession of scientific film producer is one which requires a very broad and intense training and experience.

To summarize, the necessary qualifications required of a producer of medical teaching films of high quality may be listed as follows:

1. Research experience in a medical science or practice in the field of clinical medicine and surgery.
2. Teaching experience in medicine or in a medical science.
3. Artistic ability.
4. Photographic and motion picture experience.
5. Familiarity with the fundamentals of optics.
6. Deep interest in teaching.
7. Dramatic ability.

5. CREATING MANPOWER FOR TEACHING FILM PRODUCTION

The number of medical men and workers in medical science who have undergone the necessary training in art, photography, optics and motion picture technique is very low. Yet, today, an increasing number of talented medical teachers, biologists and physicians would be willing to deviate from their present activities and enter the field of film production, if only adequate facilities for their training were available.

The creation of a school of scientific and instructional cinematography becomes imperative. Medical men and biologists enlisting in such a school would become eligible as producers of medical teaching films. The graduates of such a school would be among the most universally trained and most versatile of all professional men.

Postgraduate Instruction in Psychotherapy in the University

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The intense and almost continual stresses to which we have been subjected since the outbreak of World War I have forced an exceptionally rapid increase in public awareness of the power of psychological and interpersonal forces. This awareness has found expression in every part of our society—in education, in the form of the teaching of civics and human relations; in industry, in the growing importance of the personnel and public relations departments; in government, in the vast support given to the social services; in war, in the form of psychological warfare and preparations for civilian defense.

As part of this, the establishment of departments of psychiatry in the universities has gone forward with urgency and rapidity. Public demand for immediate expansion of our knowledge of human behavior and for the organization of efficient, readily obtainable psychiatric care has brought this about.

It can justly be claimed that there is not now a first rank university in the United States or Canada in which such a department has not been organized. But it must also be said that these departments have not yet taken over in full the functions for which they were brought into existence. In particular, it is only to a limited extent that they have set up facilities to train psychiatrists competent to carry out psychotherapy, despite the fact that public and physician alike are clamantly aware that there is not a form of psychiatric treatment for which the need is so acute, and the facilities so limited, as psychotherapy.

Evidence that the public is beginning to seek such treatment from other sources has increasingly disturbed both the psychiatrist and his medical colleagues. For these other sources usually are nonmedical,—the practising psychologist, the counsellor and a great range of less informed lay therapists, a range which, at its far extremity, includes those who are frankly charlatans.

Similarly, for lack of proper training in psychotherapy at the university, a number of young psychiatrists feel that they do not have an alternative save to approach some psychoanalytic group for a personal analysis and thereafter devote themselves to the practice of psychoanalysis, which, while of value, is only a limited section of the broad field of psychotherapy.

A no less serious consequence of the lack of leadership by the university departments of psychiatry is that a considerable number of men now seek training in hospitals which do not have a connection with universities; and, indeed, there are already those who will assert that the training to be obtained in certain of such hospitals is in advance of that which exists in many university centers. But since such hospitals usually are organized for the exclusive

care of psychiatric patients, there is little opportunity to gain experience in the psychotherapy of psychosomatic cases which are found in such numbers in the wards of the general hospital. Moreover, these hospitals only rarely have an outpatient department, thus seriously limiting training in techniques of brief psychotherapy. And, finally, the only personnel which such places can use to carry on training schemes are their own staff members, namely, psychiatrists and occasionally psychometricians. Hence, the student is completely deprived of the great enrichment of his preparation which is contributed by instructors drawn from the numerous medical and social science departments of the university.

All advanced training in medicine continually has to be defended and its standards firmly asserted against incursions by individuals maneuvering for recognition without preparation, and against more serious assaults by groups outside medicine endeavoring to establish themselves in the health field. But in psychiatry, because of the particularly large range of disciplines which contribute to the preparation of the psychiatrist and because of the urgent public demand for treatment, these attempts to take over training and to furnish easy, ill-founded recognition to poorly prepared individuals are more numerous than usual.

Hence, it is imperative that the university take that leadership and maintain that control in the postgraduate education of psychiatrists which it does, with great benefit, in surgery, internal medicine and the various specialties.

What should be done? Let us say at once that the old apprenticeship method of training in psychotherapy, which came into vogue twenty years ago in the few teaching hospitals which then existed, is completely inadequate, though, unfortunately, it has not yet disappeared. The apprenticeship system, under which the young man does jobs for his seniors, listens in on their discussions and picks up leads and hints as to how to handle his tools as he follows the chief around the wards or sits and listens to him officiating in conference is outdated. It belongs to the period when the tools were few and the skill required to use them to their poor best was easily acquired.

In the last twenty years, a great range of new psychotherapeutic techniques have been devised, and the postgraduate student must spend much time and effort in fitting himself to employ them to their full effectiveness. The preparation of the psychotherapist, indeed, is one of the most detailed and intensive of all forms of postgraduate instruction. It calls not only for the gaining of knowledge from many of the medical disciplines and the social sciences, and the acquiring of a high degree of skill in their application, but it also calls for a degree of unlearning and reorientation concerning human motivation and behavior which no other postgraduate group has to undertake.

The setting up of a modern postgraduate course of instruction in psychotherapy calls for industry and imagination, but, at least by convention, these are qualities which an academic governing body requires in those who it appoints to the chairmanship of a major department. In universities, devoted as they are to undergraduate instruction and to the provision of the means for

advanced postgraduate study, the necessary pieces of organizational structure are readily procurable. The same is true of their teaching hospitals, which almost without exception are prepared to adapt their clinical facilities to the purposes of higher training.

The following is a description of a course of postgraduate instruction in psychiatry which has been planned and put together at McGill University and which has been in satisfactory operation for five years.

The first step was the defining of objectives. Two facts served to determine this. The first was that the development of psychiatry in Canada has been uneven,—a reasonably advanced mental hospital system flourished beside an all but rudimentary growth of psychiatric services in the general community. The second fact was the availability to the University of such clinical facilities for which the need is so acute, and the facilities so limited, as psychotherapy. as the Allan Memorial Institute of Psychiatry, the Montreal General Hospital, the Mental Hygiene Institute, the Montreal Neurological Institute, close liaison with the heads of the major departments of the various general hospitals in the Montreal area, the existence of a large mental hospital in the city, and the cooperation of the director of the acute psychiatric division of the Veterans Hospital. These two facts resolved us to prepare men primarily to enter the fields of general hospital, consultant, teaching and, in general, extramural psychiatry. In this the training in psychotherapy immediately assumed dominant proportions.

The basic framework of the course is that it is controlled by the department of psychiatry, through a Departmental Committee reporting to the Faculty through the Dean. All candidates must first satisfy the Departmental Committee that they are graduates of a grade A medical school; that they have advanced their studies and have obtained practical experience through a year spent in general or rotating internship, and that they are mature individuals of broad and stable interests. After acceptance, they enroll as postgraduate students in the University. They then are assigned to one of the five clinical teaching areas. An application for a clinical appointment for each man is made by the head of the clinical service to which he is assigned through the Medical Board to the appropriate governing body.

The clinical appointments carry with them board and lodging, together with a small honorarium which enables the man, with some self denial, to get through his course. For a considerable number, this has been supplemented by bursaries of from \$200 to \$250 a month through the extensive training scheme set up under the Dominion-Provincial Health Grants.

The course calls for four years of graduated study. Each year the candidate consults with the Departmental Committee as to the location of his next year's study,—which may be within the teaching network of the University, or may consist in a year of investigation in one of the research departments of the various psychiatric centers or of the medical or social science departments, or it may be undertaken in some center outside the University, provided this is acceptable to the Committee.

After the first two years, the content of the course varies with the ultimate interests of the student. If he intends to work primarily in general hospital psychiatry, he is assigned to a position on the wards of the department of internal medicine where, under psychiatric guidance, he will have extensive contact with psychosomatic cases. If he means to enter community psychiatry, his assignment is to the Mental Hygiene Institute. If he means to work in child psychiatry, his clinical appointment is in the child psychiatry division of the department of pediatrics. With this goes a shift in emphasis to instruction in the psychotherapeutic techniques appropriate to these fields,—brief psychotherapy, and the use of adjuvants in psychosomatic medicine, social psychotherapy in community psychiatry, play techniques and directive forms of psychotherapy in child psychiatry. But all during their first two years there has been basic instruction and practice in general and "depth" psychotherapy.

If the candidate has made successful progress with his studies, the University accords him a Diploma in Psychiatry at the end of the four years.

That is the general framework. The inner structure consists of instruction in small groups and individually, and practical work with patients. A curriculum is set up for each year.

Incoming candidates arrive in July and are at once given an orientation course in basic psychiatry, in the use of special therapeutic techniques, in psychodynamics and in psychotherapy.

In the fall, seminar instruction is set up and carried on throughout the academic year. In this, recognition is given to the fact that the psychiatrist in training draws his data not only from his own field but from that of the medical disciplines and the social sciences. Hence, along with seminars on basic psychiatry, psychodynamics, psychotherapy, psychosomatics and psychoanalysis, there is also instruction in endocrinology and psychology, in neuroanatomy and sociology, in electrophysiology and in anthropology.

In order to furnish immediate guidance, a tutorial system has been set up whereby the students, in small groups of three or four, are assigned to a senior staff member who regularly reviews their psychotherapeutic work. Cases for psychotherapy are assigned to each man, the usual case load being six, the candidate carrying four or five other patients not primarily requiring psychotherapy. Considerable use is made of movies and of magnetic tape recordings as means of instruction. Recordings made by the student himself are submitted for review in the tutorial group and errors in procedure and difficulties are explored.

Integration and consistency of teaching are ensured by the setting up of a weekly study group attended by the tutors and other senior teaching staff members. At these meetings, particularly intricate problems in psychotherapy and in teaching are brought up for discussion and decision.

Along with this practical and clinical training must go instruction in theory. The student must be informed concerning basic premises in the field

of learning and conditioning; he must be acquainted with our present knowledge of causality and semantics, of adaptation and group dynamics, of remembering and motivation, of the theories of psychoanalysis and of communication.

In all these, the assistance of the social science departments of the University is essential.

A statement should be made about the need of personal analysis as preparation for psychotherapy, since claims have been advanced that successful psychotherapy cannot be carried out save by individuals who have gone through this procedure. Let us say, with all possible finality, that such claims are unfounded. That they are unfounded is not a matter of opinion but one of simple observation. The results obtained in centers staffed by well trained psychotherapists are indistinguishable from those obtained by therapists who have undertaken a personal analysis. This statement requires emphasis, since large numbers of young men interested in entering the psychotherapeutic field are either discouraged from doing so by the long time—from two to five years—required by a personal analysis and by the many thousands of dollars which this demands.

A difficulty which all those who enter psychiatry must encounter is that of evaluating the significance of behavior. Everyday usage and belief teaches certain significances about aspects of behavior which not infrequently are completely fallacious, just as everyday belief erroneously associates high blood pressure with a ruddy complexion and large muscles with great endurance. Most young men entering on training in psychotherapy have the utmost difficulty in recognizing when the patient is being self-accusatory, in detecting the many forms of hostility, or in recognizing when passivity has become deviant. It is frequently claimed that this difficulty arises from neurotic traits in the student. Our experience is that while such neurotic traits may hinder a few students, difficulties in evaluating human behavior are derived in far greater measure from the cultural indoctrination of the individual, and that this can be most expeditiously dealt with through discussion groups and through the sociology and anthropology seminars which enable the individual to gain perspective on his own culture.

In our discussion thus far we have dealt, primarily, with setting up training for long term, so-called "depth" psychotherapy, suitable for the treatment of severe psychoneurotic and certain psychotic conditions. There is, however, a considerable series of other forms of psychotherapy in which the university and its teaching hospitals should be prepared to offer instruction. Among these are the various forms of brief psychotherapy, used in the treatment of the psychosomatic patient and the outpatients encountered in the general hospitals. Training in brief psychotherapy is instituted during the second year, after the individual has had instruction in the fundamentals of the more extensive types of psychotherapy. At this time there should also be some instruction in the use of hypnosis.

Together with this must go training in the use of adjuvants, such as the

disinhibiting drugs and those that afford special drive, as, for instance, testosterone or pervitin, which may be required to help the individual make specially difficult adjustments. The clinical material necessary for this—the psychosomatic cases and the outpatients—is primarily to be found in the large general teaching hospitals. Co-operative contribution by the departments of endocrinology, pharmacology and the clinical departments is essential.

It is also necessary that well rounded training in psychotherapy should include instruction in group psychotherapy. To the theoretic side of the instruction in these techniques, the departments of sociology and anthropology can make considerable contributions through their interest in group dynamics. This is commenced in the first year, the postgraduate student acting as observer in group psychotherapy units operated by a senior staff member and being rotated in this capacity through a series of such groups—the psycho-neurotic and the psychotic, the alcoholic, the discharge discussion and the relatives' group psychotherapy units—in order that he may gain the widest possible experience in procedures and techniques of dealing with the dynamics of these various kinds of groups. Also during the first year he is given the experience of conducting a directive type of group psychotherapy in the form of an instructional discussion unit, of which several are set up, these being attended by all patients as a means of affording them basic information about human behavior, which in turn facilitates their individual psychotherapy.

In his second year, the postgraduate student gains experience in running a series of the non-directive types of group psychotherapy units mentioned above. In doing so, he receives guidance from personnel specially trained in the group dynamic methods of the Research Center for Group Dynamics which was first established by Kurt Lewin. Further instruction is gained by weekly sessions attended by all those operating such groups. At these, special problems in procedure are discussed.

More recently, we have initiated work on multiple psychotherapy, in which a number of different categories of personnel are integrated into a psychotherapeutic team. In this connection, we have started to train the psychiatrist to work with the nurse in a number of psychotherapeutic patterns,—the nurse as passive counsellor, as playing an assigned role, e.g., a mother figure.

Finally, there should be instruction in social psychotherapy,—the therapist's management of the home and work setting in which the patient lives. Without the basic theoretic contributions which can most competently be made by the departments of sociology and anthropology, such training is likely to remain superficial.

Our experience with this intensive and varied curriculum demonstrates that, on its completion, the psychiatrist is competent to deal adequately with all save the more advanced problems in psychotherapy. In a word, he finds himself in the same position as the young surgeon at the end of his post-graduate training—prepared to undertake with reasonable ability the majority of the problems which come to him, and with the anticipation that with

accumulating experience he will be able to tackle the most intricate cases.

In the foregoing, we have emphasized that:

1. The departments of psychiatry now established in all major university centers have not yet assumed full leadership in the postgraduate instruction of psychotherapy.

2. Because of this, a serious possibility exists that such instruction will be taken over by centers lacking the means to provide competent training; an equally grave situation is developing in the appearance of non-medical personnel seeking to provide the psychotherapeutic services for which there is an urgent public demand.

3. Postgraduate instruction in psychotherapy requires a planned and graduated curriculum which includes theoretic and practical training in the full range of procedures necessary for competent work in this field. Such a curriculum, developed at McGill University during the last five years, is outlined to show the basic organization, the range of content and the methods of instruction.

4. The university, in association with its teaching hospitals, is the only place where the necessary medical and social science and clinical facilities are available, and hence that it is only when the universities exercise in full their responsibilities that the highest degree of competence can be achieved in this most important field of psychotherapy.

The Hippocratic Oath Formulated at Geneva

Now being admitted to the profession of medicine I solemnly pledge to consecrate my life to the service of humanity. I will give respect and gratitude to my deserving teachers. I will practice medicine with conscience and dignity. The health and life of my patient will be my first consideration. I will hold in confidence all that my patient confides in me. I will maintain the honor and the noble traditions of the medical profession. My colleagues will be as my brothers. I will not permit considerations of race, religion, nationality, party politics or social standing to intervene between my duty and my patient. I will maintain the utmost respect for human life from the time of its conception. Even under threat I will not use my knowledge contrary to the laws of humanity. These promises I make freely and upon my honor.

(Adopted by the Second General Assembly of the World Medical Association held in Geneva, Switzerland, September 8 to 11, 1948.)

The Present Place of Undergraduate Research in the Medical Curriculum: Survey Report.

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AIM: A survey of the present state of undergraduate research in the modern medical curriculum was begun on April 23, 1948. This survey attempted to determine: (a) whether undergraduate medical students were permitted to undertake scientific investigation while in medical school; (b) what means had been established to encourage student participation in such a program; (c) how many and what percentage of graduating classes availed themselves of this opportunity; (d) whether time was made available during the school hours for use in research or whether time spent on original investigation could be substituted for regular courses; and (e) the attitude of the school administration toward undergraduate research. These data were collected and compiled in the hope that they would reveal the present beliefs and practices of medical school administrators with regard to undergraduate research. A comparison of these data with those of a previous survey by Isaac Starr, et al, was attempted.¹ The questions asked were identical with those used by Starr.

MATERIALS AND METHODS: The following letter was sent to the dean of each medical school in the United States and Canada.²

Dear Sir:

As members of the third year class at Temple University Medical School we have become interested in the present status of undergraduate research in medical schools. While, admittedly, graduate research constitutes much of medical progress our present interest is in comparing the status of undergraduate research today with that of thirty years ago. At that time, Dr. Isaac Starr published a paper (*Science*, Vol. 50, p. 308, 1919) on this question. Fundamentally, we are following the same procedure which he outlined at that time.

Your aid in answering the enclosed questionnaire and your comments will be greatly appreciated. In the event these data are published, those applying to your school will not be identified.

A self addressed stamped envelope was enclosed to facilitate replies and the following questionnaire included.

Please check the applicable answer adding any pertinent comment you may desire.

1. Do you allow undergraduate research in conjunction with the student's regular work?

Yes No Comment

2. Are any means taken by your faculty to encourage undergraduate research? If so, what means?

Yes No Comment

3. Approximately how many and what percentage of your graduating classes have undertaken some research problem under instruction of the faculty during their regular course of study?

Approximate number Approximate percentage

4. Does your curriculum permit a student to substitute time spent on research, under direction of a faculty member, for hours in the regular course, required or elective?

Yes No Comment

5. Do you believe that undergraduate research is justified by its educational value to the student?

Yes No Comment

Signed _____

Medical School _____

RESULTS: Seventy-six medical schools were polled and sixty replies were received (78.9%). Of the eight medical schools in Canada, seven were polled and seven replied. Canadian schools represent 11.7 per cent of the total number replying. Of the sixty-nine medical schools in the United States, sixty-nine were polled and fifty-three replied (76.8%). This represents 88 per cent of the total number replying.

The results of the present survey and of Starr's survey appear in the following table.

RESULTS OF STARR'S AND AUTHOR'S SURVEY

Survey Year		Starr 1919	Present 1948
Total number of schools polled		25	76
1. Undergraduate research permitted?	Yes	20	57
	No	2	2
	Doubtful	2	1
2. Research encouraged by:			
a. Personal advice and interest of the faculty.		7	46
b. Allowing to assist members of the teaching staff.		3	8
c. Requiring thesis.		3	1
d. Giving credit toward their degree.		1	1
e. Offering electives in research.		2	0
f. Miscellaneous.		4	16
i. Research scholarships.			10
ii. Student prizes and stipends.			4
iii. Double registration and double degree.			2
3. Proportion of graduating class who have undertaken research.	100-50%	2	2
	50-25%	3	2
	25-10%	5	18
	10-05%	2	12
	5-00%	4	19
	0%	3	2
	Unknown		11
4. Substitution of research time for regular course requirements.	Yes	10	17
	No	14	43
5. Does its educational value justify undergraduate research?	Yes	16	59
	No	44	1

QUESTION 1. Ninety-five per cent of those schools replying allow undergraduate research. Only 3.3 per cent do not permit it today. Some of the more interesting comments follow:

"... few students have time for research should it demand more than 2-10 clock hours."

"Where students have an M.A. degree and have special training in science."

"We never urge students to do research but attempt to encourage those who so desire and show ability in it."

"... Medical students are encouraged to undertake research in both preclinical and clinical subjects throughout their medical school careers. Some of this research is done on an informal basis, by arrangement with individual members of the staff, and some is done under the aegis of the Tutorial system."

"(A) Seniors must do some research in preparing their thesis.

(B) There are usually some students assisting faculty members on their research problems."

Thus, one finds a majority of schools allow undergraduate research in conjunction with regular work; a few schools require it as regular work; and a few schools do not allow undergraduate research at all today.

QUESTION 2. Ninety-five per cent of the schools replying utilized some means of encouraging student participation in their programs. Only 5 per

cent took no means to encourage participation. Some of the pertinent comments were:

"There are three Tutors, one in Medicine, one in Surgery, and one in the pre-clinical Sciences . . . they make arrangements to get the students and staff members together to work on problems and to arrange weekly seminars for interested students."

"Students of obvious ability are often approached by the faculty to determine the interest of the student to undertake independent investigations."

"Where students show special aptitude they may register as irregular students and spend part time in research."

"Opportunity to 'double register' in the Graduate School and College of Medicine at the same time permits a double degree at graduation if an acceptable research project is completed."

"If independent thinking is research, yes. If technical skills are required, then in vacation time. The choice between a long vacation and research, i.e. the identical choice presented to many of the staff, is a good way to test the real interest in research."

"Curriculum being revised to offer definite time opportunity as an elective for qualified students."

The methods used for stimulating interest in research programs by the various schools vary widely. They encompass every means from one year fellowships in absentia to medals and prizes for original work.

QUESTION 3. The majority of schools reported from 5 to 25 per cent of their students doing research as undergraduates. One school reported 100 per cent participation (thesis writing being considered research at that school). One school reported no student actively engaged in research. Another stated that they could remember "three since 1936." Six schools did not reply to this question.

QUESTION 4. One-third of the schools polled permitted substitution, either required or elective, for time spent on original investigation. Two-thirds did not permit such substitution. The following comments are representative:

"No research except for a six week period in the freshman year when each student is allowed time in which to complete a project."

"Elective courses are at students disposal but required courses are, at present, prescribed by Medical Practice Act."

"Except for substitution for the intern year."

"Students in their fourth year may substitute approved research programs for their regular courses and get up to six months of the fourth year entirely free to pursue some research problem. This privilege is limited to 15% of the fourth year class."

"No, however, the faculty is given latitude and a student, while assigned to one department, may do research rather than regular work in this course if the Department Head and the Student both so desire."

"Such a plan would be inappropriate. It is impossible at present to cover the requirements of medical education adequately in four years."

"They must take the full curriculum but we give them extra time in which to do it."

"The matter, however, is under discussion."

"The 2 month elective period in the senior year may be used for research. Those doing research in the summer periods are assigned elective research periods upon resumption

of the regular schedule in the fall, so they have 5 consecutive months for research."

"If a student has received advanced credit in one of the basic sciences he substitutes other work for the required number of hours and is encouraged to do research work as a substitute."

"We have been impressed by the loss of interest in required work, one which is not compensated at the undergraduate level."

"Present plans of the curriculum committee is to permit substitution for research for up to 3 months of regular class work."

QUESTION 5. The answers here show an overwhelming belief in the value of undergraduate research as an adjunct to the medical curriculum. Ninety-six and six-tenths per cent believe in the value of this phase of training, while only 3.3 per cent believe it to be of no value. From the interesting comments we have selected the following:

"It is stimulating to all and may ignite a spark of interest in some. They learn method and critical attitude."

"The scientific methods and procedures of research (observation, verification, inference, generalization and application) should be the same as those used in Medical Education and medical practice. We need more research in the teaching program."

"For the interested and able student research as an undergraduate should be encouraged. It is only as the student realizes such experiences early that he may eventually select the career of an investigator."

"Undergraduate teaching, if inspired, cannot help but instruct in the research method. Even course work can be given this flavor."

"I do not believe it should be made a requirement for all."

"Provided the student is really interested and provided he does not neglect his regular course work."

"The full time curriculum is too heavy for such research."

"The faculty considers it justified, in educational fairness to the student."

"Unqualifiedly one of the best methods of developing young men."

"Insofar as it can be fitted into the curriculum. The main objective is then to introduce the student to research methods."

"Yes, but only under very select considerations."

"Of the highest benefit—we wish more would find time to participate."

"I believe it of definite value but not something which can be considered lightly and intermingled with regular student curriculum."

"Point is not what he investigates but how that counts. Therefore, very close supervision in planning is the *sine qua non*."

"If it comes as a spontaneous response on the part of the student. Not if forced upon him."

"This medical school was founded primarily to train people to contribute to the advancement of medical science."

"To a limited degree and only in those students who have the necessary preliminary training."

"Where there is interest and genuine desire provided regular work is carried on satisfactorily."

"In some cases, perhaps—but 'Research' as now practiced is a false God! (I hope the results of this questionnaire will not be considered research)."

As final comments we have chosen these that follow as being most representative of searching thought on the problem of undergraduate research in medical schools.

"I believe that at least 25% of students would undertake research during the medical course if it were encouraged by a flexible course schedule after the first year. I do not believe that research should substitute for the regularly required courses, except to the extent that it may be used for elective hours up to 10% of the total. The amount of standard medical knowledge that the medical graduate should possess when he is granted the M.D. degree today is such that only a few hours of regular course work can be substituted for by research work. The undergraduate research work is exceedingly well justified by its educational value, but the educational value should be added to and not substituted for an elementary knowledge of the various diseases."⁸

"Those intelligently and sincerely interested in passing on the torch of medical knowledge have, for the most part, exemplified this philosophy of self-experience in education through the years, providing personal opportunities for, and sharing experiences with, younger apprenticed associates according to the ancient Hippocratic admonition. Today . . . we need to be reminded again of our obligation, not only to train competent clinicians, but to provide scientifically minded, medical investigators and teachers of superior ability and idealism. . . . The opportunity to follow one's imagination *ad libitum* out of which have emerged so many of the beneficent ideas and advancements, tangible, and intangible, in the realm of human intellect has been nil for a decade in this country. . . . There has been expressed from time to time some difference of opinion among medical educators as to the time and circumstance under which research should be shared with the on-coming generation. . . . I can not but wonder whether this is not largely an inheritance of prejudices derived from past personal experiences. . . . New emphasis and revised patterns may be necessary with a new emerging social and intellectual maturity. We are confronted with the choice, either of continuously preparing a few well trained and devoted research workers, or of becoming a mere 'pill-peddler' factory. . . . It (the latter attitude) must be changed by developing through daily classroom and clinical contacts the type of student who repeatedly asks 'Why?', 'What is the evidence?'. The starting point would seem to be the faculty rather than the student body."⁹

DISCUSSION: The results presented here indicate that a majority of schools seem to be in favor of undergraduate research. In analyzing the answers to the individual questions, one wonders at the discrepancy between the high regard for research evidenced by the administration and the low percentage of students participating in such endeavors. This discrepancy is due to several factors: (a) the vast amount of material to be covered in the four year medical course discourages student participation; (b) the student is psychologically directed toward the clinical phases of medicine, to the complete exclusion of "research thinking;" (c) the possibility of discrepancy between administrative beliefs and practical application; (d) many other individual variables. In retrospect, we feel that the results would have been more clearly defined and more easily interpreted if we had distinguished between library and laboratory research. Despite this differential point, we must conclude that many schools consider undergraduate research an integral part of medical education although this belief is not always translated into the practical terms of the medical curriculum. The most noteworthy objection to undergraduate experimentation is the lack of time in the present medical curriculum. One wonders why time is available at some institutions and entirely lacking at others. The same question arises in conjunction with student participation. Why do some schools have little difficulty in obtaining twenty to thirty per cent of

class participation on a voluntary basis while others complain because of the terrific lack of student interest in such a program? Since an overwhelming majority of administrators believe this means of undergraduate training of educational value to the student, one must admit that there is a decided need for some introspective analysis at various medical schools.

Data presented here agree in general with those of Starr, et al, but no statistical comparison is valid because of the limited sample in the earlier survey.

SUMMARY:

1. A survey of the present administrative attitude toward undergraduate research has been accomplished and the data have been presented.
2. This survey is indicative of the present trend in medical education.
3. This trend shows an increasing awareness of the value of undergraduate research in the modern medical curriculum.

The authors would like to thank Dr. Earle H. Spaulding and Dr. Robert H. Hamilton for their advice and active help in the preparation of this manuscript; the many other friends for their technical help and critical evaluation of the material; and the busy administrators for their kindness in completing the questionnaire.

REFERENCES

1. Starr, Isaac, Jr., Stokes, Joseph, Jr. and West, Lyle B.: "The Progress of Undergraduate Research in Medical School." *Science*, 50:308, 1919.
2. Johnson, Victor, Arestad, F. H., and Tipner, Anne: "Medical Education in the United States and Canada." *J.A.M.A.*, 131:1277, 1946.
3. Ivy, A. C.: Personal communication.
4. Doan, Chas. A.: "Research and Medical Education," *J. A. Am. M. Coll.*, 22:10, 1947.

Esthetics of Language

The application of an esthetic criterion to language, which has objective reality and a practical function, is bound to be not merely unscientific, but unsatisfactory. At the most, it can only lead to chauvinistic pronouncements, of which an early one, made in the eighteenth century by the Russian poet-physicist Lomonosov, is given as an example, that the reader may ab uno discere omnes:

"Lord of many languages, the Russian tongue is far superior to all those of Europe, not only by the extent of the countries where it is dominant, but also by its own comprehensiveness and richness. Charles the Fifth, Emperor of the Holy Roman Empire, said that one ought to speak Spanish to the Deity, French to one's friends, German to one's enemies, and Italian to the fair sex. But had he been acquainted with Russian, he would assuredly have added that one could speak it with each and all; he would have discovered in it the majesty of Spanish, the vivacity of French, the strength of German, the sweetness of Italian, and, in addition, energetic conciseness in its imagery, together with the richness of Greek and Latin." (Pei, Mario: *Study of Language*, J. B. Lippincott Company, Philadelphia. 1950. p. 186).

Tentative Program

SIXTY-FIRST ANNUAL MEETING

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

LAKE PLACID CLUB, ESSEX COUNTY, NEW YORK

Monday, October 23, 1950

- 9:00 a.m. OPENING ADDRESS—
MEDICAL MANPOWER IN TIME OF EMERGENCY
Howard A. Rusk
- 10:00 a.m. Attendance at one of the following Round Tables:
- A. FACULTY RECRUITMENT PROBLEMS
Vernon Lippard, *Chairman*, W. C. Davison,
John Russell, Francis Smyth
 - B. THE VETERANS ADMINISTRATION HOSPITAL PROGRAM IN
RELATION TO MEDICAL EDUCATION
Hugh Wood, *Chairman*, Harold Diehl,
John Youmans, Reginald Fitz
 - C. SHOULD THE MEDICAL COLLEGES TAKE MORE
RESPONSIBILITY FOR RECOGNITION OF GRADUATE TRAINING?
Ward Darley, *Chairman*, John Alsever,
Frode Jensen, Edward Levertoos.
 - D. PREPAID MEDICAL CARE PLANS IN RELATION TO
MEDICAL EDUCATION
Edward L. Turner, *Chairman*,
James DeLamater, James Faulkner
Stanley Olson.
 - E. HOW CAN THE INTERVIEW CONTRIBUTE MOST IN THE
SELECTION OF MEDICAL STUDENTS?
Trawick Stubbs, *Chairman*, D. Bailey Calvin,
W. W. Morris, Carl A. Whitaker.
 - F. HOW SHOULD AN ADMISSIONS COMMITTEE FUNCTION?
F. J. Mullin, *Chairman*, John M. Stalnaker,
George Packer Berry, William Beckman.
 - G. WHAT IS THE RESPONSIBILITY OF THE ARTS COLLEGE
TO THE STUDENT PLANNING TO STUDY MEDICINE?
William Cadbury, *Chairman*, C. R. Dawson,
Richard L. Masland, Thomas Hunter

H. THE IMPORTANCE OF CONTINUITY IN STUDENT-PATIENT
RELATIONSHIPS IN OUT-PATIENT TEACHING

Russell Oppenheimer, *Chairman*,
Henry J. Bakst, Theodore H. Harwood,
Kenneth Turner.

I. POST-GRADUATE MEDICAL EDUCATION

Robert Boggs, *Chairman*, George N. Aagaard,
Charles Smyth, John Truslow.

J. SPECIFIC INTERNSHIP REQUIREMENTS FOR LICENSURE—
YES OR NO?

John Caughey, *Chairman*, John C. Leonard,
Francis Wood, Robert Loeb.

12:30 p.m. LUNCH

2:30 p.m. PRESIDENTIAL ADDRESS—Joseph C. Hinsey

3:15 p.m. SHOULD THE NATIONAL BOARD MEDICAL EXAMINATIONS BE
OF A DIFFERENT TYPE?

Dr. John P. Hubbard, Associate Secretary,
National Board of Medical Examiners

3:45 p.m. Attendance on open hearing of one
of the following Committees:

A. COMMITTEE ON STUDENT PERSONNEL PRACTICES—

Carlyle Jacobsen

B. COMMITTEE ON INTERNSHIP AND RESIDENCES—

John B. Youmans

C. COMMITTEE ON AUDIO-VISUAL EDUCATION—

Walter A. Bloedorn

D. COMMITTEE ON FINANCIAL AID TO MEDICAL EDUCATION

Joseph C. Hinsey

E. COMMITTEE ON PREPAREDNESS FOR WAR—

Stockton Kimball

F. COMMITTEE ON PUBLIC INFORMATION—

Franklin D. Murphy

G. COMMITTEE ON SOCIAL AND ENVIRONMENTAL MEDICINE—

Frode Jensen

H. COMMITTEE ON STUDENTS FROM ABROAD—

Francis S. Smyth

7:00 p.m. ASSOCIATION DINNER

Speaker—William S. Carlson, *President*, University of Vermont

PRESENTATION OF BORDEN AWARD

Tuesday, October 24, 1950

- 9:00 a.m. SYMPOSIUM
SOME IDEAS ON MEDICAL EDUCATION FROM ABROAD
WORTH CONSIDERING HERE
Arthur Bachmeyer, Willard Rappleye,
Stanley Dorst, Alan Gregg, Vernon Lippard
- 10:30 a.m. FINANCIAL PROBLEMS PECULIAR TO STATE-SUPPORTED
MEDICAL SCHOOLS
Ward Darley
- 11:00 a.m. BUSINESS MEETING
REPORTS OF OFFICERS AND STAFF MEMBERS
INTRODUCTION OF NEW DEANS
- 12:30 p.m. LUNCH
- 2:30 p.m. BUSINESS MEETING
REPORTS OF COMMITTEE CHAIRMEN
ELECTION OF 1951 OFFICERS
CHOICE OF TIME AND PLACE OF 1951 MEETING
- 7:00 p.m. DINNER
-

Wednesday, October 25, 1950

- 9:00 a.m. REPORTS FROM CHAIRMEN OF TEN ROUND TABLES
- 12:30 p.m. LUNCH
- 2:30 p.m. NEW TEACHING AND RESEARCH DEVELOPMENTS IN THE
STATE UNIVERSITY OF NEW YORK
Alvin C. Eurich, Carlyle Jacobsen,
Herman G. Weiskotten, Jean A. Cuitan
- 3:30 p.m. REPORT OF THE COMMITTEE ON EDUCATION OF THE
AMERICAN ACADEMY OF NEUROLOGY
Russell N. DeJong, University of Michigan
Discussion—
Roland P. Mackay—University of Illinois
Pearce Bailey—Veterans Administration
- 4:00 p.m. A PRIVATE OUT-PATIENT CLINIC IN A UNIVERSITY HOSPITAL:
ITS ROLE IN THE TEACHING PROGRAM OF THE
DEPARTMENT OF MEDICINE
Palmer H. Futcher
- 4:30 p.m. REPORT OF RESOLUTIONS COMMITTEE
- 7:00 p.m. DINNER

An exhibit of audio-visual aids for teaching in the field of cardiovascular diseases will be available at periods throughout the three days of the meeting. These aids have been developed and will be exhibited by J. S. Butterworth, Assistant Professor of Medicine, New York University Graduate School of Medicine.

Information

The American Plan rates will be \$12.00 per person per day double and \$14.00 per person per day single. Reservations should be made directly with the Lake Placid Club, Essex County, N. Y.

Railroad transportation is by the New York Central System via the branch running from Utica to Montreal, leaving the main line at Utica. The day train leaves Utica at 1:20 p.m. and arrives at Lake Placid at 6:50 p.m. From Chicago, train No. 46 leaves at 9:50 a.m., arrives in Buffalo at 10:00 p.m. where a through Pullman car to Montreal can be occupied to Lake Clear Junction, arriving there at 6:35 a.m., making a direct connection for Lake Placid, arriving there at 7:40 a.m. From Chicago also train No. 10 leaves at 5:40 p.m., arriving at Lake Placid the next evening at 6:50 p.m. with change of car at Utica. From New York, train No. 55 leaves at 8:10 a.m., arriving in Utica at 1:01 p.m., thence to Lake Placid, arriving at 6:50 p.m. A night train, No. 21, leaving New York at 8:15 p.m. will arrive in Lake Placid at 7:40 the following morning.

On return one can leave Lake Placid at 9:25 p.m. and arrive in Chicago the next afternoon at 5:00 p.m. with sleeper from Lake Clear Junction, or one can leave Lake Placid at 10:30 a.m., arriving in Chicago at 8:10 the next morning. To return to New York, one can take a 10:00 a.m. train at Lake Placid, arriving in New York at 8:55 that evening. A second possibility is a 9:25 p.m. train from Lake Placid, arriving in New York at 7:10 the next morning.

If enough reservations are made in advance it is possible that through sleepers will be provided from Chicago. Train reservations from the West should be made with E. J. Heroux, Room No. 602, La Salle Street Station, Chicago 5, Illinois; from New York with T. R. Ruth, 466 Lexington Avenue, N. Y. C. 17.

There is an air connection on the Colonial Air Lines from New York to Lake Placid. It takes about two hours.

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FRED C. ZAPFFE, Editor

September, 1950

**Medical Film Institute of the
Association of American
Medical Colleges**

The Medical Film Institute is now a year and one-half old. It was established February 15, 1949, in New York City, as an operating agency of the Association of American Medical Colleges, with a broad and inclusive charter. Its scope of activities was to encompass the entire range of audio-visual teaching techniques in the medical sciences. Its policies and priorities were defined by an Advisory Committee developed from the original nucleus of the Audio-Visual Committee of the Association of American Medical Colleges. Its budget was supplied by a unique triple foundation support from the Commonwealth Fund, the John and Mary R. Markle Foundation, and the Alfred P. Sloan Foundation.

The basic tasks of the Institute have been defined as follows: Information; Evaluative Cataloging; Studies and Assistance in Curriculum Integration of Audio-Visual Materials; Experimental Approaches in Audio-Visual Production; Consultation; Distribution; Utilization; Training; and Liaison Services. The Institute has boldly begun activities in each of these areas, but with primary emphasis on the first five elements of the program.

Information has been served by a first issue of printed posters of "Medical Teaching Films Now in Production," a semi-annual release soon to be repeated. Evaluative Cataloging has been begun through a grant from the National Cancer Institute (films for cancer teaching), through collaboration with the New York State Medical Society and New York State Department of Health (films for the post-graduate medical teaching program, New York State Medical Society), and through

a grant from the Rockefeller Foundation for the over-all cataloging and appraisal of the existing films; through special contracts with the U.S. Department of State (for the U.S. Information Service), selection of films for overseas usage has been performed. Curriculum Integration has been pursued through continuance of work with the Conference of Professors of Preventive Medicine, through an initial conference with the teachers of cardiovascular diseases, and through an imminent symposium-demonstration with the Cancer Coordinators of the schools of medicine. Experimental Production has been started with the health film, "Challenge: Science Against Cancer," in which the Institute supplied film consultant services to the National Film Board (Canada), the National Cancer Institute (U.S.A.), and the Department of National Health and Welfare (Canada). Experimental Production has continued with "The Embryology of Human Behavior," a research report film on the human growth concepts of Dr. Arnold L. Gesell, with support from the Office of Naval Research and the Bureau of Medicine and Surgery, U.S. Navy. Consultation and Liaison have been provided in many areas, notably to Smith, Kline and French Company, for assistance in their pioneering color television demonstrations; to the Surgeon General, for a "Survey of the Motion Picture Policies, Programs and Plans of the U.S. Public Health Service," with special studies of the Clinical Center of the National Institute of Health, and of the Nursing Services; to many individual physicians and medical teachers; and to certain pharmaceutical houses, for special film problems. The Institute has supported the completion of Dr. Adolf Nichtenhauser's monograph on "The His-

tory of Motion Pictures in Medicine," originally sponsored almost to its termination by the U.S. Navy Bureau of Medicine and Surgery.

During the fiscal year 1950-51, the priority of effort will go toward the information services, including evaluative cataloging. Special attention will be directed toward direct informational services to the medical schools, regarding the quality and accessibility of the presently available teaching motion pictures. At intervals, papers will be prepared on aspects of visual education of special importance to the medical colleges. Through repeated demonstrations and conferences with specialty groups, the problems of successful classroom usage of films will be brought into increasing focus. In the event of a national emergency, the Institute will be another factor in the mass teaching of physicians and allied professions.

The Advisory Committee of the Medical Film Institute comprises a group of medical educators, with cross-pollination of interests from other areas of education. The Committee includes Joseph S. Barr, M.D., William L. Benedict, M.D., Walter A. Bloedorn, M.D., C. E. de la Chapelle, M.D., Thomas D. Dublin, M.D., Tom Jones, Francis Keppel, Henry H. Kessler, M.D., Joe E. Markee, M.D., Robert V. Schultz, M.D., Robert P. Walton, M.D., and Dean F. Smiley, M.D., ex officio. Business meetings of the Committee occur semiannually.

The Medical Film Institute has added two professional staff members, primarily to assist in cataloging but also to support the over-all activities of the Medical Film Institute. They are Adolf Nichtenhauser, M.D. and John L. Meyer, M.D. The members of the consultant staff who have been of major assistance include Bernard V. Dryer and V. F. Bazilauskas, M.D.

* *

"Premedical"

For many years, experienced and farsighted medical educators have decried the existence of anything and everything savoring of "premedical." Many articles on that subject have appeared in the

JOURNAL of the Association of American Medical Colleges. In 1936, the Executive Council stated its opposition to "premedical," as a term and as a course of procedure. Arts colleges and universities were notified of this action but paid no heed to it. One university president said in public that medical education was 98 per cent medical and 2 per cent education, thereby implying that medical educators knew little, if anything, of education per se. Therefore, why give heed to any pronouncement made by such a group!

It is the contention of those who have given the matter much and serious thought that prospective medical students should be—as one prominent educator put it—"educated gentlemen." The requirements set forth by medical schools as needful for consideration for admission to a medical school are entirely fundamental and not "pre" to anything. Every one would do well—and be a better man or woman—if he had that basic training or education, not only those who wish to study medicine. Time was—long ago, 'tis true—when all the specified subjects were a part of the medical curriculum. At that time, prospective medical students were not required to have attended a college or even a high school, therefore, it was necessary that medical schools prepare the way for medical study. However, when medical knowledge became greater and more time was needed to teach what was then known of medicine, these subjects were deleted from the medical curriculum and their teaching relegated to the colleges and universities. Medical educators have insisted, again and again, that so far as required subjects are concerned, they did not want the applicant to have more than the entrance requirements specified, plus certain highly recommended subjects in other fields. Unfortunately, the colleges have given undue emphasis to "premedical" requirements for reasons best known to themselves, certainly not because medical educators have asked for such emphasis.

The latest, but probably not the last, word on this subject comes from a well known and experienced medical educator,

Dr. Willard C. Rappleye, dean of Columbia University's Faculty of Medicine. He calls for the abolishment of "premedical" education in the nation's colleges and universities. He said in a recent release: "There is no such thing as a 'premedical' education. College students who plan to enter professional schools in our fields should not be regarded as premedical or premedical students."

"The college preparation for medical, dental and public health fields should not be professional in character, but should be devoted to the objective of providing as broad a cultural education as the particular institution can give."

"It should be a preparation not for medicine or dentistry or public health, but for life."

"Students should be selected for professional education not so much on the basis of grades or subjects as for character, personality, intelligence, ability, industry, general culture, resourcefulness, maturity and evidence of a grasp of the principles underlying the sciences on which medical study is dependent."

"Success in the war on disease is not a matter of physical facilities, organizations or the total number of professional workers in any field, or even extensive knowledge of the problem involved. Only through properly trained and competent personnel can a community expect to meet its responsibilities for the care and treatment of illness and the preservation of health. There is no substitute for this essential feature. The hope of democracy is in trained leadership. The medical, dental, nursing and public health professions are the trustees of the essential knowledge which will solve this large national problem. Possessing that essential knowledge, they are in a position to make a vital contribution to the public welfare and have a responsibility to do so. Our professions will occupy their proper places in modern society to the extent that they provide leadership and trained personnel."

Dr. Rappleye also referred to the problem of adequate health services and the resulting responsibilities of the medical profession. "The American people," he emphasized, "are convinced of the value of

these health services and are determined that in some way the benefits of modern science shall be made available to all. It is our responsibility to create an environment for medical and health services which will provide opportunities for the very expression of individualism which has made medicine and its allied health sciences so conspicuous in the improvement of the welfare of man."

Dr. Rappleye declared that medical and dental practice today "is not a private enterprise alone," but that it is also "a public responsibility."

Professional education is undergoing considerable adaptation to the newer duties which the physician, the dentist, the nurse and the public health officer must assume.

He also pointed out that the organization and administration of health and medical services "must of necessity avoid the proposals of the extremists who, on the one hand, advocate complete governmental control and management, or, on the other hand, are equally vigorous in defending vested interests and the status quo."

+ +

Fulbright Act

Information is now available on opportunities for lecturing and research abroad under the Fulbright program for the academic year 1950-1952. The closing date for submitting applications is October 15, 1950. Approximately 300 awards for United States citizens to serve as visiting lecturers or to engage in research in institutions of higher learning abroad have been announced by the Department of State under the provisions of Public Law 584 (79th Congress), the Fulbright Act. Many of the awards are open to applicants in medicine and the various medical specialties, public health, nursing, dentistry and the basic sciences. Countries now participating in the program are Australia, Belgium, Luxembourg (including the Belgian Congo), Burma, Egypt, France, Greece, India, Iran, Italy, Netherlands, New Zealand, Norway, the Philippines, Turkey, and the United Kingdom, including the British Colonial Dependencies.

The Fulbright Act authorizes the Department of State to use certain currencies and credits acquired through the sale of surplus property abroad for programs of educational exchange with other nations. Awards are ordinarily made for one academic year, although in exceptional cases applications will be considered for periods of not less than six months. Grants for teaching or research usually include round trip transportation for the grantee, a maintenance stipend, including certain allowances for dependents and a small supplemental allowance for travel and equipment purchasable abroad, if necessary. The grants are made in the currency of the country to which the grantee is going and are not convertible into dollars.

No award will be made for teaching or research in more than one country in any one year and only one application may be filed each year. Applicants may indicate an alternate country, however, if the proposed activity can be satisfactorily completed in more than one country. In case he cannot be accommodated in the program of the country of his first choice, he may be considered for the alternate country named.

* * *

Armed Forces Medical School

From time to time, the Armed Forces have toyed with the idea of operating a medical school in Washington with the objective of providing medical officers. At one time, not very long ago, elaborate plans had been worked up for establishing such a medical school. The basic plan was to have been the same as that under which the West Point Military Academy and the Annapolis Naval school operate. The students would be enrolled as service men. The plan died aborning.

Now there is again some activity in the direction of setting up a United States Medical Academy. Representative Cavilante of Pennsylvania on July 18, introduced a bill in the House (9156) providing for the establishment of a United States Medical Academy. The academy would be located in the District of Columbia under the supervision and control of the Secretary of Defense. The school

would provide education to medical students who would be required after graduation to serve on active duty in the armed services for a period of 6 years. The Superintendent, who need not be a physician, would be appointed by the President, subject to confirmation by the Senate. Instructors and other school personnel would be prescribed by the Secretary of Defense. Their pay and rank would conform to those in effect at the Military Academies. Secretary of Defense also would prescribe course of instruction and training. Five members from each the Senate and House Armed Services Committees would serve as a Board of Visitors. Students' pay and allowances would be the same as those in effect at the Military Academies. The number of candidates would not exceed 2,304 and would be selected as follows: 150 to be appointed by the President, 10 by the Vice President, and the remainder to be apportioned among Congressmen in the manner as provided in the case of the Military and Navy Academies. Premedical education would be required of all candidates under regulations prescribed by the Secretary of Defense. Graduates would be required to serve their internships in the Armed Forces hospitals and upon completion may be assigned to duty with the Armed Forces or to duty in hospitals under the jurisdiction of the Veterans' Administration.

On the same day, Representative Heller of New York introduced a similar bill in the House (9157). This bill would create a medical training school for the armed services and the Public Health Service to be known as United States Medical Academy. Location of the school would be selected by the President upon recommendation of the Secretary of Defense and the Surgeon General of the Public Health Service. Students would consist of 4 from each Congressional District, 4 from each Territory, 6 from the District of Columbia, 4 from Puerto Rico, 2 from the Canal Zone, 8 from each State at large, and 132 from the United States at large. There would be allowed at the Academy 4 students for each Senator, Representative, Delegate in Congress and

Resident Commissioner from Puerto Rico, 6 for the District of Columbia, and 2 to be nominated by the Governor of the Canal Zone. Candidates for admission would be from 20 to 25 years of age and graduates of a college or university or possess the qualifications for entrance to a medical school of the state of which they are residents. The course of study would consist of the courses prescribed by the American Medical Association.

Upon graduation students would be commissioned in any branch of the armed services of the United States or in the Public Health Service or any other Federal service which may require their services. They would be required to serve for at least 5 years unless excused by a certification from the Secretary of Defense of the Surgeon General that there is no further need for their services. The Superintendent of the Academy (need not be a physician) would be appointed by the President and confirmed by the Senate for the term of 10 years. The Secretary of Defense and the Surgeon General of the Public Health Service, upon the recommendations of the Superintendent, would jointly fix the number of instructors, the hours of instruction and the titles by which the several departments of instruction and offices of professor established in the Academy would be known and would fix the compensation of all

employees under the provisions of the Classification Act. A Board of Visitors would be appointed each year made up as follows: the Chairman of the Committees on Armed Services of the Senate and House; the Chairman of the Committee on Labor and Public Welfare of the Senate; the Chairman of the Committee on Interstate and Foreign Commerce of the House; 2 other members of the Senate to be appointed by the Vice President, at least one of whom is a member of the Appropriations Committee; 2 other members of the House Committee; and 5 persons to be appointed by the President, 3 of whom, at least, shall be outstanding in the fields of medicine or medical research. The Board would inquire into the curriculum, instruction, physical equipment, fiscal affairs, academic methods, and other matters relating to the Academy. Within 60 days after an annual meeting the Board would submit a written report to the President making recommendations (the Board is purely advisory). The Secretary of Defense and Surgeon General of the Public Health Service would prescribe jointly such rules and regulations for the management and administration of the Academy as they find necessary.

Both bills have been referred to the Committee on Interstate and Foreign Commerce.

SIXTY-FIRST ANNUAL MEETING

Lake Placid Club

October 23-25, 1950

College News

University of Tennessee College of Medicine

The United States Atomic Energy Commission has provided an additional \$25,980 for research projects. Dr. T. P. Nash, Jr., dean of the School of Biological Sciences, said university personnel will carry on six research projects under terms of a contract between the medical units and the A. E. C. A similar contract was entered into July 1, 1949, with \$15,000 made available for investigative studies. The present contract will finance the research until July 1, 1951.

The research projects are: Studies using radioactive calcium to determine the factors which influence the absorption and metabolism of calcium. This will be carried on under the direction of Dr. Edward F. Williams, Jr., associate professor of chemistry. A study of the mechanism of influenza virus infections, involving the use of radioactive sulfur. Dr. John L. Wood, associate professor of chemistry, and Dr. Douglas Sprunt, chief of the division of pathology and bacteriology, will direct the project.

Research on the effect of anoxia (lack of oxygen) on the thyroid gland. Dr. Lester Van Middlesworth, instructor in physiology, will direct the research and also a study of the processes which go on in tissues undergoing repair after damage from various causes. A study of the mechanisms responsible for changes in cell membrane permeability and disturbances in ionic balance. Such changes and disturbances occur in various diseases. The work will be carried on under the direction of Dr. R. R. Overman, associate professor of physiology. A study of the effects of radioactive iodine on patients with cancer of the thyroid and other diseases of the gland. Dr. Sprunt, Dr. Carl E. Nurnberger, assistant professor of radiology, and Dr. Alys H. Lipscomb, instructor in medicine, will conduct the research. A study of the use of radioactive ruthenium in the treatment of superficial lesions, to

be carried on by Dr. David Carroll, instructor in radiology, Dr. Joseph Cara, resident in radiology, and Dr. Sprunt.

Three grants totaling \$24,146 for cancer research have been awarded three members of the faculty by the U. S. Public Health Service. The grants are: To Dr. Cyrus C. Erickson, \$8000 for a study of the sex hormone influence on the incidence, development and pathogenesis of neoplasia in rats maintained on prolonged choline deficiency diet. To Dr. Douglas H. Sprunt, \$11,826 for research on the effect of changes in protein and amino acid levels on the growth of sour sarcoma in chickens. To Dr. John L. Wood, \$4320 for research on the role of sulphur compounds in the intermediary metabolism of aromatic hydrocarbons. Dr. R. R. Overman, associate professor of physiology has been awarded an additional grant of \$2000 by the Upjohn Pharmaceutical Co. of Kalamazoo, Mich. The grant follows an award of \$4000 made last year and will be used to investigate the effectiveness of cortisone in the control of infant diarrhea. The illness, which frequently is fatal among children, was widespread in Memphis last Summer. In addition to the grant, the company also will furnish the lipo-adrenal extract to be used in the study.

The U. S. Public Health Service has also provided a total of \$24,186 for research projects in the Department of Physiology. The service allocated \$11,469 to continue a study of the pressures which develop in the digestive tract, the movements of the pyloric sphincter and the mechanism of gastric emptying. It has appropriated \$5578 for a study of the pressures which develop within the abdominal cavity, and especially the effects on these pressures of blows on the abdomen. These two projects will be studied by Dr. J. P. Quigley and Dr. D. A. Brody and W. Landolina, F. Fults and Miss H. Louckes.

An investigation by Dr. C. R. Houck

on methods of measuring renal function without the collection of urine is supported by a grant of \$4213. Studies by Dr. R. C. Little of the effects of heart strain of one or two heart ventricle, on the activity of the other ventricle, will be supported by a \$2726 grant. The U. S. Health Service has awarded a \$3302 research grant to Dr. Frank Harrison, head of the Division of Anatomy. Dr. Harrison, in collaboration with Dr. S. R. Bruesch, professor of anatomy, will study the control of body temperature by the nervous system, with emphasis on the role played by sweat glands in normal subjects and subjects with disturbances of the nervous system.

Dr. James G. Hughes and Dr. James N. Etteldorf, associate professors of pediatrics have been awarded a research grant of \$15,179 by the National Heart Institute. The grant will be used to continue studies of high blood pressure in children, under hospital conditions; to study various diseases which produce high blood pressure in children, and studies on the pathologic physiology of acute nephritis, a kidney disease. In the studies on acute nephritis, special attention will be given to kidney clearance, electroencephalograms (brain wave patterns) and electrocardiograms.

Dr. Robert A. Woodbury, head of the Department of Pharmacology, has received a renewal of a \$7,961 research grant from the U. S. Public Health Service. The grant is to continue a study of the uterus in animals and human beings. A part of the study is carried on in co-operation with the Division of Obstetrics and Gynecology at John Gaston Hospital.

Robert Gardier, a research fellow in the Department of Pharmacology, will begin a three-month fellowship at the Institute of Nuclear Studies at Oak Ridge, Tenn., next January. Mr. Gardier, whose research is supported by the U. S. Public Health Service, will return to Memphis at the end of his training program in Oak Ridge. Dr. Paul Feng, formerly a research fellow in the Department of Pharmacology, has accepted the position of lecturer in pharmacology and therapeutics at the College of the West Indies, Jamaica, British West Indies, beginning September 1.

Dr. Carl E. Hookings, formerly associated with the Department of Health of the Province of Ontario, Canada, has been added to the Division of Preventive Medicine. Dr. Hookings, who will have the rank of assistant professor, also will direct the Maternal and Child Hygiene Division of the Memphis and Shelby County Health Department.

Appointments: Dr. Frederick Meyers, instructor in pharmacology; Dr. James E. Alexander, assistant in medicine; Dr. McCarthy DeMere, Dr. Edward French and Dr. William T. Tyson, Jr., assistants in surgery; Dr. Robert C. Little, assistant professor of physiology.



Kansas University School of Medicine

A gift of \$10,000 from the Kansas Medical Society for the establishment of "The Medical Student Loan Fund of the Kansas Medical Society" has been announced. The fund is to be used for loans to third and fourth year medical students at the discretion of the Dean. No more than \$500 may be loaned a student at one time and the interest rate will be 2%. However, the loans will not fall due until as late as four years after graduation and may be extended even then if circumstances require such extension.

A gift of \$75,000 from Mrs. J. R. Battenfeld of Kansas City, Missouri, is to be used for the construction of an auditorium at the Medical Center to be known as the J. R. Battenfeld, Jr., auditorium in memory of a son, Lieut. Jess Raymond Battenfeld, Jr., who was killed in February, 1945 in a military plane accident.

The School of Medicine has been selected to cooperate with the Oak Ridge Institute of Nuclear Studies in a new medical training program. Doctors of the Medical School who are taking graduate (residency) or post-graduate training can spend time learning about nuclear physics and the application of atomic energy to medicine at the Institute.

Promotions: Dr. William H. Algie to assistant professor of medicine; Dr. Max S. Allen to associate professor of medicine; Dr. Robert E. Bolinger to assistant

professor of medicine. Dr. Mahlon H. Delp to professor of medicine; Dr. Harry L. Douglas to assistant professor of medicine; Dr. Leroy Goodman to assistant professor of obstetrics and gynecology; Dr. Lee H. Leger to associate professor of medicine; Dr. Donald N. Medearis to associate professor of pediatrics; Dr. Dwight J. Mulford to associate professor of biochemistry; Dr. Sidney E. Pakula to associate in Pediatrics; Dr. Edward Rabe to assistant professor of pediatrics; Dr. David W. Robinson to associate professor of surgery and oncology; Dr. Sloan J. Wilson to associate professor of medicine. Dr. Carl F. Nelson, professor of biochemistry for 37 years, died on June 4.

A new division is to be established in the Department of Public Health and Preventive Medicine. The very nature of this department's work demands the study of social and environmental factors as they affect community and personal health.

The new division will set up a program which will bring medical students to firsthand experience in the care of individual families having limited finances in their homes. This is designed as an educational experience for the students, thus better preparing them for the general practice of medicine.

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Bowman Gray School of Medicine

Government grants totaling approximately \$134,000 have been made to various departments of the school recently, in addition to a number of grants from private foundations and companies which are already in effect. Three grants from the Atomic Energy Commission total \$31,476.66, including a balance for overhead expenses. A grant of \$12,831 to the department of internal medicine headed by Dr. George T. Harrell Jr. will finance a study of the distribution and turnover of sodium and potassium in acute infections. Others engaged in the study which employs the use of radioactive materials are Dr. Jerry K. Aikawa and Dr. Ernest H. Yount Jr. A second grant of \$10,590 made to the department of biochemistry will support research into the formation

of tissue phospholipids. Associated with Dr. Camillo Artom, department head, in this work will be Dr. W. E. Cornatzer, Dr. Marjorie Swanson and Miss Marietta Crowder. The third grant of \$5,975 to aid in a study of the toxicity of radiation in functionally-impaired organs is shared by the department of internal medicine and department of biochemistry with Drs. Harrell, Artom, and David Cayer engaged in the work.

Seven grants from the U. S. Public Health Service include: one of \$4,320 to Drs. Harrell and Yount for research on capillary permeability of membranes in infection; one of \$7,776 for a study of liver disease in humans utilizing radioactive substances made to Dr. Cayer of the department of internal medicine and Dr. Cornatzer of the biochemistry department; another to the department of physiology and pharmacology, headed by Dr. Harold D. Green, for \$25,000 for teaching and research in the evaluation of mechanisms and therapeutic potentialities of substances capable of affecting the cardiovascular system; a second grant of \$14,000 for increased teaching facilities in heart disease will be administered by Dr. Green, Dr. Robert McMillan, and Dr. Harrell.

The department of psychiatry and neurology, Dr. Lloyd J. Thompson, director, is recipient of a teaching grant of \$12,800 for salaries and equipment. The pathology department, Dr. Robert P. Morehead, director, also received a teaching grant, amounting to \$25,000, for cancer study. Another grant to the pathology department provides \$6,600 for the establishment of a tumor follow-up service and material for a course in oncology.

Dr. J. Maxwell Little, professor of pharmacology, will make a study of the diuretic factor in human urine on a USPH grant of \$7,560.

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University of Texas Medical Branch

Appointments: C. W. McNutt Ph.D., assistant professor of anatomy; Ethel C. E. McNeil, Ph.D., assistant professor of bacteriology and parasitology; John G.

Bieri, Ph.D., assistant professor of biochemistry and nutrition; Kenneth P. McConnell, assistant professor of biochemistry and nutrition; Dr. William F. Spiller, Clinical professor of dermatology and syphilology; Dr. Earl B. Ritchie, clinical professor of dermatology and syphilology; Dr. William A. Cantrell, assistant professor of neuro-psychiatry; Dr. Ivan E. Bruce, assistant professor of neuro-psychiatry; Dr. Garth L. Jarvis, assistant professor of obstetrics and gynecology; Dr. Gaynell Robertson, associate professor of ophthalmology; Dr. Fred R. Guilford, assistant clinical professor of otorhinolaryngology; Dr. F. M. Townsend, associate professor of surgical pathology; Dr. D. D. Mark, assistant professor of pathology; Dr. Richard McDonald, assistant professor of pathology.

Morris Pollard, Ph.D., associate professor of preventive medicine and Director of the Virus Research Laboratory, is completing a year of special research studies in association with Dr. K. F. Meyer, Director of the Hooper Foundation for medical research at the University of California Medical Center, San Francisco.

The Upjohn Company of Kalamazoo, Michigan, has made a supplementary grant of \$2,500 to support studies on the use of antibiotics in surgery under the direction of Doctor Edgar J. Poth, director of the Surgical Research Laboratory. The M.D. Anderson Foundation of Houston has made a supplemental grant of \$3,000 to continue support of studies in kidney pressure under the direction of Howard G. Swann, Ph.D., in the Physiology Laboratory. Dr. Truman G. Blocker, Jr., professor of plastic and maxillo-facial surgery has been given a special grant of \$25,000 from the Army Medical Services for support of studies relating to thermal injury and epithelization.

A curriculum in physical therapy has been established leading to a Bachelor's Degree. The course of training includes two years of general collegiate training, with two years of special training in the new curriculum at the Medical Branch. The curriculum is under the medical attention of Dr. W. N. Eggers, professor of orthopedic surgery.

Western Reserve University School of Medicine

Dr. Thomas Hale Ham, assistant professor of medicine at Harvard Medical School, came to the School as professor of medicine and Chairman of the Committee on Medical Education. In the latter capacity Dr. Ham will head the experiment in the reorganization of the medical school curriculum, a five year project which is to be supported by a grant of more than \$400,000 from the Commonwealth Fund. In his first year Dr. Ham will be concerned with study of what is being done in this and other medical schools, with analysis of the objectives of undergraduate medical education, and with preparation of new curriculum plans for discussion with the rest of the teaching staff. It is probable that no major changes in curriculum will be introduced before September 1951, and that students in school prior to that date will be relatively little affected by the new program.

The twentieth anniversary of the arrival of Dr. Joseph T. Wearn and Dr. Joseph M. Hayman, Jr., at Western Reserve was celebrated by former and present members of the house staff who have served as house officers in the Department of Medicine, University Hospitals, over this period.

Dr. Howard T. Karsner, for 35 years professor of pathology has been elected President of the National Board of Medical Examiners for a period of 3 years. Since leaving Cleveland a year ago, Dr. Karsner has been Advisor on Medical Research to the Bureau of Medicine and Surgery of the United States Navy.

Dr. Lawrence Peters, assistant professor of pharmacology, has been awarded a John and Mary R. Markle Foundation Scholarship for the 5 year period beginning July 1, 1950.

Dr. Cecile Leuchtenberger has been appointed professor of pathology. She will participate in the teaching of cytochemical methods.

Under the direction of the Cleveland Ophthalmological Club, a group of Cleveland oculists and opticians have presented the School of Medicine with a gift of

\$10,000 by means of which a special laboratory of ocular physiology will be set up at the School within the Department of Physiology.

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University of Illinois College of Medicine

Dr. Robert M. Kark has been promoted to the rank of professor of medicine. Dr. W. Glen Moss has been appointed assistant professor of physiology.

The U. S. Public Health Service has awarded three research grants in the total amount of \$35,936; continuation grant in the amount of \$15,000 for the study of the effects of the betatron. Previous aid has been used for the investigation of the x-ray beam of the betatron and the continuation grant will be used in support of the investigation of the electron beam on bone and cartilage. The study is under the supervision of Drs. Roger A. Harvey and G. A. Bennett. Dr. Klaus R. Unna has received a \$13,610 grant in support of a study concerning the site of action in the central nervous system of drugs useful in spastic conditions. A continuation grant in the amount of \$7,326 has been given to Dr. David Shallow for the analysis of psychological data on schizophrenia.

Dr. Arthur F. Mead has been awarded the 1950 Leo F. Miller prize of \$50. for his extensive study in the field of orthopedic surgery.

Promotions: Drs. Carroll L. Birch, Ford K. Hick, Paul H. Holinger, L. J. Medeira and Klaus R. Unna from associate professor to professor of medicine, laryngology, psychiatry and pharmacology, respectively.

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University of Colorado School of Medicine

Dr. Frode Jensen, associate professor of medicine and Director of Graduate and Post-graduate Medical Education, has resigned. Dr. Jensen will enter private practice in the field of internal medicine in New York City and join the faculty of the New York University-Bellevue Postgraduate School of Medicine.

The Colorado Rheumatic Fever Library has been established at the University of Colorado School of Medicine. It is hoped that this library will contain reprints or copies of every article that has been written on rheumatic fever. This material will be cross indexed and assembled in bound volumes by years and will ultimately be made available to all workers in the field of rheumatic fever in the form of a photostat and abstract service. Valuable assistance can be given by those writing in the field and those willing to dispose of reprint collections who will contribute papers. Reprints and inquiries should be sent to Ward Darley, M.D., Dean, University of Colorado School of Medicine and Hospitals, 4200 East Ninth Avenue, Denver 7.

Promotions: Dr. Ewald W. Busse, director of the Division of psychosomatic medicine; Dr. Charley J. Smith, director of graduate and postgraduate medical education; Dr. Henry Swan II, head of the department of surgery. In addition to being director of the Division of Psychosomatic Medicine, Dr. Busse is chief of the Electroencephalograph Laboratory at the Medical Center, special consultant in neuropsychiatry to Denver University and Veterans Administration consultant in electroencephalography and psychiatry.

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University of Minnesota Medical School

Dr. Franklin H. Top, director of the Herman Kiefer Hospital, acting head and clinical professor of preventive medicine and public health at the Wayne University College of Medicine, and lecturer in epidemiology at the School of Public Health, University of Michigan, will become professor of epidemiology in the school of public health and professor of pediatrics.

Construction is underway on the new 22-story, \$12,000,000 Mayo Memorial Medical center at the University of Minnesota.

The medical research center, which will serve as a memorial to the late Drs. William J. and Charles H. Mayo of Rochester, Minn., will house medical research labora-

atories, medical classrooms, quarters for research animals, medical school and staff offices, operating rooms, hospital rooms, the medical library, three auditoriums and an underground garage. It will be located in the University's medical quadrangle.

Ground breaking ceremonies for the building, which is expected to be ready for occupancy sometime in 1953, were held July 5, with President J. L. Morrill of the University turning the first shovelful of earth.

Principal speaker at the ceremonies was Dr. Donald J. Cowling, chairman of the Committee of Founders of the Mayo Memorial created by the 1943 Minnesota Legislature. Dr. Harold S. Diehl, dean of medical sciences at the University, presided at the ceremonies.

Funds for the building's construction have come from private donors, federal government agencies, appropriations by the State legislature and from various non-governmental medical research foundations and agencies.

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Georgetown University School of Medicine

Dr. Charles A. Hufnagel has been appointed assistant professor of surgery and professor of experimental surgery. Dr. Francis Michael Forster was appointed professor of neurology and Director of the Department of Neurology. Dr. Fred-eric G. Burke has been appointed professor of pediatrics. Dr. Fred G. Burke, assistant clinical professor of pediatrics, has been appointed professor of pediatrics.

The sum of \$20,000 has been given to the School of Medicine by Dr. Anna Bartsch-Dunne in memory of her mother. Under the terms of the gift the income is to be used, first, to make one award annually in the school of medicine to a woman of outstanding scholarship, character and promise who intends to make the practice of medicine her life profession, and second, to establish another scholarship for a woman intern in the George Washington University Hospital or in any accredited hospital in the District of Columbia which shall offer an internship in a specific field not offered

by the university hospital. The school of medicine scholarship may be awarded to the same woman during her four years of medical studies, and the intern scholarship may be awarded for two consecutive years to the same woman student. In the event that there is no suitable candidate, the income from the fund may be used for research in medicine until a suitable candidate presents herself. The fund created by this gift is to be known as the "Anna Bartsch Fund, Founded by Dr. Anna Bartsch-Dunne" as a memorial to her mother.

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Woman's Medical College

At the Centennial Commencement of the Woman's Medical College thirty-four women received the Degree of Doctor of Medicine and seven Honorary Degrees were conferred. Recipients of Honorary Degrees were: Dr. Chevalier Jackson, who had served the College as a former faculty member and President from 1935 to 1941, Doctor of Science; Dr. Leona Baumgartner, associate chief of the Children's Bureau of Washington, D. C., Doctor of Science; Senator LeRoy E. Chapman, Physician and Surgeon, and Pennsylvania Senator from Warren, Pennsylvania, Doctor of Laws. The other four were to outstanding Alumnae: Dr. Ellen C. Porter, of Trenton, New Jersey, Class of '03, former Deputy Commissioner for Welfare, Department of Institutions and Agencies of the State of New Jersey, and President of the College in 1941-1942, Doctor of Social Science; Dr. Catharine Macfarlane, of Philadelphia, Class of '98, research professor of gynecology at the College, and active in cancer research, Doctor of Science; Dr. Jane Sands Robb, Class of 1918, former professor of physiology at the College and presently professor of pharmacology at Syracuse University, eminent for her research in cardiology, Doctor of Science; and Dr. Honoria Acosta-Sison, of Manila, Class of 1909, professor of obstetrics and gynecology at the University of the Philippines, Doctor of Science.

The Medical Women's International Association will hold its 6th Congress in

Philadelphia, September 10th to 16th, at the invitation of the Woman's Medical College of Pennsylvania which is celebrating its Centennial. Ninety-five women medical delegates from fifteen foreign countries are expected to attend. Dr. A. Charlotte Ruys, of Amsterdam, is president of this Association. Wednesday, September 13th, will be "American Day." The program will include scientific programs, with clinics and demonstrations, in the morning. The Opening Exercises of the Second Century of the Woman's Medical College will be the program of the afternoon.

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Chicago Medical School

Research grants amounting to \$15,265 have been received. One, an extension grant of \$14,000 for the program of cardiology, was awarded by the U. S. Public Health Service on recommendation of the National Heart Institute. Another, in the amount of \$825 has been received from the Committee for Research in Problems of Sex of the National Research Council. This grant will be used by Dr. George Clark for a study of the role of the hypothalamus in sex behavior. The other grant of \$440 from the Veterans Administration will also be used by Dr. George Clark for a study on the use of domestic protargol in staining nerve endings in gums and teeth.

Dr. David A. Willis, associate professor of surgery, has been awarded a European Travelling Fellowship by the World Health Organization of the United Nations.

Dr. Solomon C. Werch has been appointed assistant professor of medicine. He will serve also as Director of the Dispensary and Director of teaching of the residents and interns at Mount Sinai Hospital, affiliated with the School.

An annual Faculty Meritorious Research Award has been established by an anonymous friend. The award, amounting to \$250 will be given to a faculty member who is considered to have done the most outstanding research work in the year's period.

The John J. Sheinin Lectureship has been established by the Beta Tau Chapter, Phi Delta Epsilon, in honor of Dr. Sheinin, president of the School. The first lecture in this annual series will be held in October.

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New York University- Bellevue Medical Center

A gift of \$10,000 from the International Ladies' Garment Workers' Union has been received. The gift was divided into two parts with \$2,500 earmarked to be devoted to the Center's Institute of Physical Medicine and Rehabilitation, now under construction, and \$7,500 to be used to help construct the Main Building for the Center's two medical schools, New York University College of Medicine for undergraduates and New York University Post-Graduate Medical School.

The facilities for the Institute of Physical Medicine and Rehabilitation will be completed this Fall, thus putting into operation the first new building unit in the Center's \$32,000,000 development program. The University section of the Medical Center will occupy an 11-acre, four block site from 30th to 34th Street, between First Avenue and the East River Drive, just north of Bellevue Hospital.

After completing 35 years of teaching, Dr. Walter T. Dannreuther will retire as professor and Chairman of the Department of Obstetrics and Gynecology. Dr. Arthur Gerard DeVoe has been appointed as Professor and Chairman of the Department of Ophthalmology.

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Yale University Medical School

Yale University will soon start construction of a new \$350,000 laboratory for cancer research. The building was made possible by a combination of a grant from the U. S. Public Health Service of \$250,000, funds given to the Yale School of Medicine for cancer research by private donors, and land given to Yale by the Grace-New Haven Community Hospital.

University of South Dakota School of Medicine

Grants: U.S. Public Health Service, \$5,194, to Dr. W. L. Hard, professor of anatomy, to study the histochemistry of nerve tissues in both normal and pathological states with particular emphasis on the central nervous system. A renewal grant from U.S. Public Health Service of \$2,100 to Dr. K. K. Krueger, assistant professor of biochemistry to study the enzyme systems of *Paramecium Caudatum*. To Dr. H. N. Carlisle, Acting Chairman of the Microbiology Department, \$5,200 to study the choice of complements in complement deviation tests with special reference to those potentially applicable to the serum diagnosis of brucellosis in man and animals. Dr. R. L. Ferguson, professor of pathology, Dr. Charles Schwartz, research professor in biochemistry and Dr. E. B. Scott, assistant professor of anatomy, \$4,400 to study the histopathology of amino acid efficiencies in the white rat.

Dr. Harry J. Clauson, formerly associate professor of anatomy at the University of Arkansas, replaces Dr. E. W. Lowrance as associate professor of anatomy.

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University of Virginia Department of Medicine

Appointments: Dr. John Hamilton Allan, formerly associated with the School of Medicine of the University of Pennsylvania, professor and chairman of the School of Orthopedics; Dr. Joseph F. A. McManus, formerly associate professor of pathology at the Medical College of Alabama, associate professor of pathology; Dr. Morris Sullivan McKeehan, formerly associated with the Department of Zoology, University of Chicago, assistant professor of Anatomy.

Promotions: Dr. William Norman Thornton, Jr. from associate professor to professor and chairman of the School of Obstetrics and Gynecology; Dr. Oliver B. Bobbitt, from instructor to assistant professor of clinical pathology.

Contracts have been let for erection of the unit for research and treatment in the field of cancer. Total cost of the project is approximately \$250,000.

University of Buffalo Medical School

A grant of \$24,500 from the State Health Department will enable the Medical School to expand its Regional Hospital Plan in six counties in Western New York. Through this program, the University is able to bring the latest advance in medicine to practicing physicians and surgeons at their "work benches"—the hospitals in Western New York communities. The grant for expansion of this project is expected to be annual. The program, originated by the Medical School two years ago, provides for the conduct of clinics and conferences by faculty members at the community hospitals and for the assignment of residents from affiliated hospitals in Buffalo to the community hospitals requesting them. The grant will make possible the appointment of a full time director of post-graduate education in the Medical School. Five hospitals now are associated with the University in the regional program.

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Johns Hopkins University Medical School

Charles F. Kettering, has given \$10,000 to Johns Hopkins to be used over a three year period to establish a postdoctoral fellowship for research in the McCollum-Pratt Institute. The McCollum-Pratt Institute was founded at Johns Hopkins three years ago to explore the effects of the trace elements on plants, animals and human beings. It is known that trace elements, such as copper, boron and cobalt, in the soil are vital to the health and growth of all living things, and that their absence can lead to a wide range of deficiency diseases. The Charles F. Kettering Fellowship will be used to support the work of a young scientist for research and training in the field of trace elements.

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University of Arkansas School of Medicine

Dr. Haydn Nicholson has been appointed dean and professor and head of the department of pathology.

Stanford University School of Medicine

Dr. Paul J. Hanzlik, professor of pharmacology and Executive of that department becomes emeritus on September 1, 1950. Dr. Hanzlik has served in that capacity since 1921. Dr. Windsor C. Cutting has been appointed professor of pharmacology and therapeutics to succeed Dr. Hanzlik effective for the academic year beginning September 1, 1950. Dr. Cutting received his education at Stanford University where he received the A.B. Degree in 1932. He served three years in residency training in Medicine, was then national Research Fellow at the Courtauld Institute of Biochemistry in London in 1935-36, and had a fellowship in Experimental Therapeutics at Johns Hopkins 1936-38. He has been in the Department of Pharmacology at Stanford since 1938.

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Albany Medical College

The College has received a research grant of \$6,000 from Knaust Brothers, Mushroom Growers, of Catskill, New York. The grant has been made to Dr. George P. Child of the department of physiology and pharmacology. The purpose of the grant is to study the possible drug action of the chemicals found in mushroom extracts.

The College has received a research grant of \$3,200 from the U. S. Public Health Service. The grant has been made to Dr. Richard A. Miller, associate professor of anatomy. The purpose of the grant is to make histochemical studies on secretion of the cells of the cortex of the adrenal gland.

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Tulane University

Dr. Joseph N. Ane, acting head of the department of radiology, has been appointed chairman of the department of radiology and Dr. Conrad G. Collins, professor and head of the department of gynecology and associate professor of obstetrics has been promoted to chairman of the newly combined department of obstetrics and gynecology.

University of Michigan Medical School

Promotions to rank of professor: Drs. Jerome W. Conn and John McF. Sheldon in Medicine; Cameron Haight, Edgar A. Kahn and Henry K. Ransom in surgery; to assistant professors, Drs. Robert E. L. Berry, Marion S. DeWeese, Sylvester J. O'Connor and Herbert E. Sloan Jr., in surgery; Winthrop N. Davey in internal medicine; Edward W. Lauer, Ph.D., in anatomy; Drs. William J. Morro and J. Joseph Quilligan Jr., in pediatrics and communicable diseases; Ward M. O'Donnell, in pathology, and Dr. Martha R. Westenberg, in neurology. In the school of public health, assistant professors include Martin Hanig, Ph.D., and Dr. J. Joseph Quilligan Jr., in epidemiology.

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University of North Carolina School of Medicine

Dr. William deBerniere MacNider retired July 1st, 1950, from his position as Kenan Research Professor of Pharmacology. He has been a member of the faculty fifty-one years. Dr. A. N. Richards, President of the National Academy of Sciences, was the principal speaker at a dinner honoring Dr. MacNider on May 27th. Dr. MacNider was presented a silver tray by the Medical Faculty and a scroll by the University in testimony of his long service.

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Syracuse University College of Medicine

Official ceremonies transferring the College to the State University of New York were held June 26. Speakers were: Dr. Oliver C. Carmichael, president of the State Universities Board of Trustees; Governor Dewey, President Al C. Eurich. Hurlbut W. Smith, president Syracuse University Board of Trustees, Dean H. G. Weiskotten whose appointment as first dean of the new College was announced at this time. Regent Welles V. Moot and Charles Garside, chairman of the State University Trustees Committee on Medical Education Centers and Chancellor Tolley of Syracuse University.

University of Rochester School of Medicine

Promotions and appointments: Dr. Lawrence B. Young, associate professor of medicine; Dr. Wm. B. Test, assistant professor of medicine; Dr. Herbert R. Morgan, professor of bacteriology and chairman of the department; Dr. Wilbur K. Smith and Dr. Victor Emmel, associate professor of anatomy; Dr. Robert J. Bloor, assistant professor of radiology; Dr. Robert F. Witter, assistant professor of biochemistry; Dr. Wm. F. Neuman, associate professor of pharmacology.

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State University of Iowa College of Medicine

Promotions: Dr. Elmer L. DeGowin from associate professor to professor of medicine; Dr. Lewis E. January from assistant professor to associate professor of medicine; Dr. Raymond F. Sheets and Dr. Walter M. Kirkendall from assistants to associates in medicine. New Appointments: Dr. Bernard I. Lewis, associate in medicine; Dr. William H. Ames, instructor in medicine.

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New York Medical College

New York Medical College received an endowment of \$250,000 from the William Nelson Cromwell estate. The college board of trustees has designated this sum as a special endowment for the department of obstetrics and gynecology. The income will be used to cover partially cost of medical education in this field. Dr. Leon S. Loizeaux is director of the department.

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University of Nebraska College of Medicine

Dr. Cecil Legriel Wittson has been appointed professor of neurology and psychiatry. He will also become the Director of the Nebraska Psychiatric Unit, a joint venture between the Board of Control of the State of Nebraska and the Board of Regents which is designed as a teaching unit to the College of Medicine and School of Nursing.

Emory University School of Medicine

Dr. Alfred E. Wilhelmi, professor of biochemistry and Chairman of the Department, will relieve Dr. Evangeline Papageorge. Dr. Papageorge will continue in the department as associate professor of biochemistry.

Appointed associate deans: Dr. Paul Beeson, chairman department of medicine, and Dr. Arthur P. Richardson, chairman department of pharmacology.

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University of Washington School of Medicine

During the months of July and August, postgraduate courses of three and four days duration were given in clinical endocrinology, hematology, practical psychiatry and obstetrics and pediatrics. In September, a postgraduate course in pathology of internal diseases will be given. Members of the faculty conducted these courses.

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University of Wisconsin Medical School

The University voted to get up a separate department of the history of medicine in the Medical School. The new department will be headed by Dr. Erwin H. Ackerknecht, professor of the history of medicine.

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Medical College of Alabama

Dr. Roy R. Kracke, dean, died suddenly in June from a cardiac lesion. A collection of books, diplomas, certificates, photographs, and personal items of interest belonging to the late Dr. Roy R. Kracke has been donated by his family to the Library of the Medical College.

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Harvard Medical School

A grant of \$10,000 has been awarded to Dr. John G. Gibson 2nd. This grant will enable Dr. Gibson to continue his studies on the fundamental problems of the preservation of blood.

General News

Medical Film Institute

The Rockefeller Foundation has provided up to \$21,350 to the Association of American Medical Colleges for the use of its Medical Film Institute in the production of a critical catalogue of medical motion picture films during the one year period beginning July 1, 1950.

The premiere of the film *THE EMBRYOLOGY OF HUMAN BEHAVIOR* will occur in Chicago at the annual meeting of the American Academy of Pediatrics, October 16th at 7:30 p.m., Palmer House.

The film, "Challenge: Science Against Cancer," in which the Medical Film Institute acted as production consultant with the National Film Board of Canada, was adjudged the best film of the year in the scientific class by the Associated Screen Writers. This recognition of the film has been underlined by an enthusiastic response to the film's showing at the Fourth International Cancer Congress in Paris in July. The distribution of the health film to college science groups has been greatly heightened during the summer.

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National Conference on Premedical Education

Medical and premedical advisers and educators interested in the problem of premedical education are invited to attend a National Conference on Premedical Education sponsored by Alpha Epsilon Delta, national premedical honor society, in cooperation with the Association of American Medical Colleges. The Conference will be held at the Lake Placid Club, Essex County, New York, October 21-22, 1950, just prior to the annual meeting of the Association.

The Conference will be organized as a workshop into round table discussion groups consisting of both medical and premedical educators so that fruitful joint discussion can be held concerning the

many problems of premedical education which involve both the liberal arts colleges and the medical schools. Each person in attendance will be invited to present general topics of mutual interest for discussion and raise questions for an exchange of ideas, opinions and suggestions concerning the various individual problems which confront the medical and premedical advisers.

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Midwest Medical Schools Meet

Representatives of midwest medical schools met in Deadwood, South Dakota, July 13 and 14 for their second annual meeting for the purpose of discussing problems of the administration of medical schools. States represented at the conclave were Iowa, Missouri, Kansas, Nebraska, Colorado, Oklahoma, North Dakota and South Dakota. Utah, which was represented last year, did not have a representative this year as that state had a medical meeting at the same time.

On the agenda for discussion at Deadwood were premedical curriculum, graduate work in medical schools, medical school curriculum, the faculty, student selection, preceptor training, finances, public relations, two year schools, accrediting agencies and exchange of students between state universities.

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Urology Award

The American Urological Association offers an annual award of \$1,000 (first prize of \$500., second prize \$300. and third prize \$200.) for essays on the result of some clinical or laboratory research in urology. Competition shall be limited to urologists who have been in such specific practice for not more than five years and to men in training to become urologists. The first prize essay will appear on the program of the forthcoming meeting of the American Urological As-

sociation, to be held in Chicago, Illinois, May 21-24, 1951.

For full particulars write the Secretary, Dr. Charles H. de T. Shivers, Boardwalk National Arcade Building, Atlantic City, New Jersey. Essays must be in his hands before February 10, 1951.



Graduate Industrial Hygiene Engineering Fellowship

The James S. Kemper Foundation announced that it is offering a graduate fellowship in Industrial Hygiene Engineering at Harvard University. The fellowship covers tuition and academic fees at the Harvard Graduate School of Arts and Sciences in addition to reasonable living allowances. The successful candidate will work toward either the degree of Master of Science or Master of Engineering in the field of industrial hygiene. In awarding the fellowship, the selection committee of the Foundation will take into account the scholastic record, character, personality and physical condition of candidates, who must first satisfy admission requirements of Harvard University graduate school. Applications are invited from young men who are graduates of approved engineering, chemistry or physics schools and who are citizens of the United States. Applicants should contact the Foundation at the Mutual Insurance Building, Chicago 40, Illinois.

The James S. Kemper Foundation was established in 1942 by insurance companies in the group managed by James S. Kemper of Chicago. One purpose of the Foundation is to aid worthy persons to take advantage of educational opportunities beneficial both to the person and the insurance industry.



National Society for Medical Research

Wilmette, Illinois, became the 30th community to save unwanted, unclaimed pound dogs from destruction so that the animals might be used instead for medical studies when the village trustees voted 4 to 2 to enact such an ordinance on July 18. Wilmette is the third suburb of Chi-

cago to pass such a law within the last year. Buffalo, Omaha, Cleveland and Baltimore have recently acted to save stray animals to assist medical teaching and research.

The Los Angeles City Council is currently considering two proposals on the matter. Both would save some of the thousands of animals now destroyed in the city pound for study on such problems as the effects of radiation and the protection of pilots of high speed aircraft.



Arthritis and Rheumatism Research Fellowships

The Arthritis and Rheumatism Foundation is offering fellowships for research in the basic sciences related to the study of arthritis. The foundation is anxious to back a candidate, rather than a project, an institution or a hospital. It hopes to arouse interest in arthritis in a wider circle of medical investigators and to encourage able, inquiring minds in the whole problem of the rheumatoid diseases. The fellowships will carry a stipend of from \$4,000 to \$6,000, depending on the needs and ability of the worker, and will run for a period of one year. Applications should be sent to the Arthritis and Rheumatism Foundation, 535 Fifth Avenue, New York 17. Applications received by September 15 of this year will be acted on at that time and notification of fellowships made immediately. All applications must be received by Jan. 1, 1951.



Cancer Training and Research

All of the nation's 79 medical schools are now participating in the Public Health Service program to improve the cancer training of future physicians. Allocations totalling \$640,541, including 2 initial grants and twenty-seven renewals, were approved by the Surgeon General of the Public Health Service, following recommendation by the National Advisory Cancer Council. Cancer teaching grants, which were first made in 1947, are renewable annually, and enable schools to engage additional faculty members to

coordinate cancer teaching, to procure cancer training materials, and for similar purposes. Medical school grants are limited to \$25,000 annually for 4 year schools and \$5,000 for 2 year schools.

Indiana University Medical Center and Vanderbilt School of Medicine received \$126,350 each for construction of cancer research laboratories. An award of \$47,300 was made to Stritch School of Medicine (Loyola) for similar purposes. Announced simultaneously were 21 cancer control grants, totaling \$352,800, to hospitals, medical schools and health departments in 18 states. These range in size from \$42,400 to \$3,873 for studies of prostatic cancer diagnosis.

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Atomic Energy Commission Fellowships

If qualified candidates are obtainable, Atomic Energy Commission will inaugurate this fall a fellowship program for training of industrial physicians. Stipend for first year will be \$3,600. For the second year, calling for on-the-job training, salary will be \$5,000. For the first year, fellows will be sent to University of Rochester Medical School and University of Pittsburgh School of Public Health. Application forms are obtainable from AEC Industrial Medicine Fellowship Committee, Atomic Energy Commission, Washington 25, D. C. Drs. Edward A. Doisy (St. Louis University) and Curt Stern (University of Calif.) have been added to AEC's biology and medicine advisory committee, replacing Drs. A. Baird Hastings and George Beadle.

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Markle Foundation to Continue Scholar Grants

The John and Mary R. Markle Foundation, announces that it will continue for a fourth year its program of five-year grants for Scholars in Medical Science to help young scientists interested in teaching and research to become established in academic medicine. A total of forty-seven scholars

on the staffs of thirty-five medical schools in the United States and Canada are now being aided by these grants. Twenty were chosen in 1950. The number to be named in 1951 has not been determined.

Each medical school is invited to nominate one candidate. Grants of \$25,000, payable at the rate of \$5,000 annually, will be made to the schools over a five year period for the support of each scholar selected. Nominations should be made to the Foundation on or before December 1, 1950.

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Medical Illustrators' Directory Available

The Directory issue of GRAPHICS, the official publication of the Association of Medical Illustrators, contains the name, address, training, professional experience and reference to major published work of each member. Other information pertaining to the profession is included. The Journal, issued June first, is available to those requiring medical illustration service, and will be sent, free of charge, on request to the Editor, Miss Helen Lorraine, 5212 Sylvan Road, Richmond 25, Va.

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Health Conditions in Israel

The Hebrew Medical Journal (Harofé Haivri), inaugurates the 23rd year of its publication. Written in Hebrew, with English summaries, the Journal is a contribution to improving the health of the new State of Israel, aiding as it does the development of Hebrew medical literature, and thus the newly established Hebrew University - Hadassah Medical School.

In the current number, articles of interest are "Orthopedic Problems in Israel," "Fighting Deafness in Israel," and "Kupat Holim—The Labor Health Service in Israel," "Pathological Symptoms caused by the Famine during the Siege of Jerusalem by Nebuchadnezzar, King of Babylon"; a historical article on "Ascites—A 10th Century Manuscript."

Book News

Peptic Ulcer

By A. C. Ivy, Ph.D., M.D., Vice President of the University of Illinois in Charge of Chicago Professional Colleges; M. I. Grossman, Ph.D., M.D., Associate Professor of Physiology, University of Illinois, College of Medicine; and William H. Bachrach, Ph.D., M.D., Research Associate in Physiology, University of Southern California, School of Medicine. The Blakiston Company, Philadelphia. 1949. Price, \$14.00.

This is a one volume library on peptic ulcer containing a complete and analytical condensation of the world's opinions on the subject. It is an exhaustive review of the definition, pathogenesis, diagnosis and treatment of peptic ulcer based on experimental and clinical data. It brings together and interprets the significant contributions on the broad subject of gastric physiology and peptic ulcer. The various medical and surgical therapies are discussed in detail including why they have been and are employed. Each of the 21 chapters is concluded with a summary and each of the four parts—(1) the problem of peptic ulcer; (2) the pathogenesis; (3) the diagnosis; (4) the treatment—is ended with a summarizing chapter, thus giving the reader a quick over-all view. The bibliography presents thousands of references, adding greatly to the size of this momentous book. Several hundred tables and 137 illustrations add much to the text. The index of authors contains approximately 5,000 names! It is an exhaustive presentation of everything known about peptic ulcer, especially the senior author's work.

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Interallied Conferences on War Medicine: 1942-1945: Condensed by the Royal Society of Medicine

Honorary Editor, Major-General Sir Henry Letheby Tidy, M.D., President of the Interallied Conference. Assistant Editor, J. M. Browne Kutschbach, M.B., D.P.H. Staples Press Limited, London. 1950. Price, \$5.

Here are gathered together communications which touch the whole range of the practical application of medicine to war, contributed by officers of all ranks of many countries and many services. Contributions are based on personal experience. These conferences were confidential being held during the active war period, but are now made available in this form. Military medical officers will find them not only interesting but most informative.

Handbook of Bacteriology

By Joseph W. Bigger, M.D., Professor of Bacteriology and Preventive Medicine, University of Dublin. Ed. 6. The Williams & Wilkins Company, Baltimore. 1950. Price, \$4.50.

For 25 years this work has enjoyed the favor of teachers and students as a text in bacteriology. The text has been brought up to date, much of it rewritten, and many new chapters added. The nomenclature is that given in Bergey's Manual of Determinative Bacteriology. Excellent black and white illustrations add to the worth of the text. The general arrangement of the subject matter is that usually followed in textbooks on bacteriology.

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Combined Textbook of Obstetrics and Gynecology

Edited by Donald Baird, M.D., Regius Professor of Midwifery, University of Aberdeen and Gynecologist, Aberdeen Royal Infirmary. Ed. 5. The Williams & Wilkins Company, Baltimore. 1950. Price, \$12.50.

Presenting the usual arrangement of the subject with special attention being given to the physiology of pregnancy. New chapters deal with stillbirth, infant mortality and psychological factors in obstetrics and gynecology, keeping in mind psychomatic medicine. Profusely illustrated but to good purpose.

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Atlas of Human Anatomy

By M. W. Woerdeman, M.D., Professor of Anatomy and Embryology, University of Amsterdam. The Blakiston Company, Philadelphia. 1950. Price, \$10.

This volume deals with splanchnology, angiology, nervous system and organs of sense, with 642 fine, full page, plates in black and white. Simplifies the learning of anatomy considerably. The work is deserving of the highest praise.

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A Histology of the Body Tissues

By Margaret Gillison, Lecturer in Physiology, I. M. Marsh College of Physical Education, Liverpool. The Williams & Wilkins Company, Baltimore. 1950. Price, \$2.50.

Stressing the functional significance of tissues; illustrated.

A Textbook of X-Ray Diagnosis--Vol. IV

By British Authors. Edited by S. Cochran Shanks, M.D., Director X-Ray Diagnostic Department, University College Hospital, London, and Peter Kerley, M.D., Director X-Ray Department, Westminster Hospital, London. ed. 2. Bones, Joints and Soft Tissues. W. B. Saunders Company, Philadelphia. 1950. Price, \$15.

Formerly a single textbook, this is now published in four volumes: I: Head and Neck; II: the Chest; III: The Abdomen; and IV: Bones, Joints and Soft Tissues. The text has been revised thoroughly; much new material has been added as well as illustrations, which now number 553. An excellent book for the radiologist.

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You and Your Heart

By H. M. Marvin, M.D., and Associates. Foreword by Paul D. White, M.D. Random House, New York. 1950. Price, \$3.

This is a contribution to the freedom from fear, the fear of heart disease, written by five of the most eminent heart specialists. They combat with facts the panic which affects so many people at the mention of such terms as "coronary thrombosis," "high blood pressure," "arteriosclerosis, etc. The book is written for the lay reader but the professional man will also find it interesting and informative.

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Practice of Medicine

By Jonathan C. Meakins, M.D. Formerly Professor of Medicine and Director of the Department of Medicine, McGill University, etc. Ed. 5. The C. V. Mosby Company, St. Louis. 1950. Price, \$13.50.

Carefully revised. The section on psychiatry has been displaced by a chapter on psychosomatic medicine. The chapter on the nervous system has been retained. A new chapter is devoted to chemotherapy and antibiotics, the indications and manner of their use. The chapter on the ductless glands has been largely rewritten. There is every evidence of revision.

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Techniques in British Surgery

Edited by Rodney Maingot, F.R.C.S. W. B. Saunders Company, Philadelphia. 1950. Price, \$15.

Comprising specially selected articles on surgical subjects written by twenty-nine leading surgeons. The authors have drawn mainly from their own experience, laying special emphasis on technique. The book is well illustrated by nearly 500 well made black and white drawings.

Williams Obstetrics

By Nicholas Eastman, M.D., Professor of Obstetrics, Johns Hopkins University. ed. 10. Appleton-Century-Crofts, New York. 1950. Price, \$12.50.

The text has been reorganized, many sections have been completely rewritten; others revised with 200 new illustrations. The long historical resumes of previous editions have been severely shortened as well as the bibliographical references to make room for new material. The sections on prenatal care, complications of pregnancy, handling of delivery and details of operative procedures are stressed. This is a very fine and purposeful revision.

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Principles of Genetics

By Edmund W. Sinnott, Sterling Professor of Botany and Director of the Scientific School, Yale University; L. C. Dunn and Th. Dobzhansky, Professors of Zoology, Columbia University. ed. 8. McGraw-Hill Book Company, New York. 1950. Price, \$5.

Now that genetics has assumed almost major proportions in medicine, being one of the subjects recommended for admission to medical school, students should find this book interesting and valuable for an understanding of much that will be taught in the medical course.

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Foundations of Community Health Education

By Robert C. Paterson, Ph.D., Professor Emeritus Community Health Organization, School of Social Administration, Ohio State University. McGraw-Hill Book Company, New York. 1950. Price, \$3.75.

This book provides basic information for those who are to instruct others—parents, teachers, public health workers, nurses, physicians, dentists, social workers and persons employed by unofficial organizations. The historical portrayal of health events from primitive times to the present also gives due recognition to the lives of prominent men associated with each era.

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Plastic and Reconstructive Surgery: A Manual of Management

By Ferris Smith, M.D., Consultant in Plastic Surgery, Blodgett Memorial Hospital, Grand Rapids, Michigan. W. B. Saunders Company, Philadelphia. 1950. Price, \$15.

A vade mecum for the specialist illustrated by about 600 well made black and white drawings.

A Textbook of Gynecology

By Arthur Hale Curtis, M.D., Emeritus Professor and Chairman of the Department of Obstetrics and Gynecology, and John William Huffman, M.D., Associate Professor Northwestern University Medical School. ed. 6. W. B. Saunders Company, Philadelphia. 1950. Price, \$10.

Retains the same high quality of previous editions with extensive revisions. New material will be found in the chapter on sarcomatous growth of the cervical stroma, on the paraurethral ducts and on mesonephric remnants of the cervix. Many new illustrations have been added.

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Medical Diagnosis: Applied Physical Diagnosis

Edited by Roscoe L. Pullen, M.D., Professor of Graduate Medicine, Director of the Division and Vice Dean of the School of Medicine, Tulane University of Louisiana. ed. 2., W. B. Saunders Company, Philadelphia. 1950. Price, \$12.50.

With the assistance of many well qualified contributors, the author presents this revision of a well known book. Much rewriting and deletion has been done. New chapters include one on bedside diagnosis of blood diseases, one on medical diagnosis in the aged and one on the physical examination of the psychiatric patient.

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Buchanan's Manual of Anatomy

Edited by F. Wood Jones, M.B., Sir William Collins, Professor of Human and Comparative Anatomy at the Royal College of Surgeons of England; sometime Professor of Anatomy in the University of Manchester, with the assistance of collaborators. ed. 8. the Wilkins & Wilkins Company, Baltimore. 1950. Price, \$8.50

Nearly 1,600 pages of text and 850 illustrations which seems too much for a manual. But it is all there. Presents an extensive glossary, biographical notes and a fine index.

+ +

Principles of Public Health Administration

By John J. Hanlon, M.D., Associate Professor of Public Health Practice, School of Public Health, University of Michigan. The C. V. Mosby Company, St. Louis. 1950.

For him who plans a career in public health administration.

Recent Advances in Chemotherapy

By G. M. Findlay, M.D., Abstract Editor of the British Medical Association for World Medicine, Surgery, Obstetrics and Gynecology. Ed. 3, Vol. 1. The Blakiston Company, Philadelphia. 1950. Price, \$7.50.

Because of the advance in scope of chemotherapy, the author finds himself compelled to present the subject in four volumes. Volume I contains the chemotherapy of scabies, and helminthic and protozoal diseases, with the exception of malaria. It also gives a voluminous bibliography, an author's and a fine subject index.

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Nutrition and Diet Therapy

By Proudfit, Fairfax T., University of Tennessee College of Medicine, and Corrine H. Robinson, Temple University School of Medicine. Ed. 10. The Macmillan Company, New York. 1950. Price, \$4.

A "multum in parvo" on nutrition and diets, plus 35 pages of bibliography. It is not possible, in the space available here, to make mention of even a small share of the many good things presented in this book, but it can be said, "if it has to do with nutrition and diet"—here it is.

+ +

A Short Textbook of Radiotherapy

By J. Walter, B.M. (Oxfrd.), Consultant Radiotherapist and Deputy Medical Director, Sheffield National Center for Radiotherapy, and H. Miller, Ph.D. (Camb.), Physicist Sheffield National Center for Radiotherapy. The Blakiston Company, Philadelphia. 1950. Price, \$6.

For technicians and students with a supplementary chapter for the dermatologist. Presupposes a basic knowledge of electricity and magnetism and elementary biology and physiology.

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The Cerebral Cortex of Man: Clinical Study of Localization of Function

By Wilder Penfield, M.D. and Theodore Rasmussen, M.D. Professor of Neurology and Neurosurgery, McGill University, Professor of Neurological Surgery, University of Chicago. The Macmillan Company, New York. 1950. Price, \$6.50.

Presenting the results of many years of study and observation of the functions of the brain. Much of the material was presented at the Lane Lectures in 1947 by the senior author who is easily the outstanding authority on the functions of the brain.

Management of Peripheral Arterial Diseases

Saul S. Samuels, M.D., Chief Department of Arterial Diseases, Stuyvesant Polyclinic Hospital, New York. Oxford University Press, New York. 1950. Price \$7.50

The text of this book can be summarized by quoting Sir Astley Cooper, who said: "He is a good surgeon who can amputate a limb, but he is a better surgeon who can save a limb." How to do that is the theme of the author's story. The book is well illustrated.

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Textbook of Biochemistry

By Benjamin Harrow, Ph.D., Professor of Chemistry, City College of New York. Ed. 5. W. B. Saunders Company, Philadelphia. 1950. Price, \$6.

Revised; new material added, such as biological antagonists, frequent references to microbiological methods, etc.

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The Practice of Medicine

By Jonathan C. Meakins, M.D., Formerly Professor of Medicine and Director of the Department, McGill University. Ed. 5. The C. V. Mosby Company, St. Louis. 1950. Price, \$13.50.

Thoroughly revised; many parts rewritten and brought up to date. Well and elaborately illustrated by more than five hundred plates, 50 in color.

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Pocket Encyclopedia of Anatomic Energy

Edited by Frank Gaynor. Philosophical Library, New York. 1950. Price, \$7.50.

A comprehensive collection of brief explanations and definitions of concepts and terms in the field of nuclear physics and atomic energy; individual entries for every element; thumbnail biographic sketches of outstanding nuclear physicists and chemists; charts; tables and illustrations.

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Guiding Learning Experience: Principles of Progressive Education Applied to Nursing Education

By Maude B. Muse, R.N. Formerly Associate Professor of Nursing Education, Teachers College, Columbia University. The Macmillan Company, New York. 1950. Price, \$4.50.

One of a series in the Macmillan Nursing Education Monographs. Designed for the education of professional nurses.

Davidoff & Epstein—The Abnormal Pneumoencephalogram

By LEO M. DAVIDOFF, M.D.

Clinical Professor of Neurosurgery, New York University Postgraduate Medical School and BERNARD S. EPSTEIN, M.D.

Instructor in Clinical Radiology, Long Island College of Medicine, New York

New Book. 506 Pages, 6 1/4" x 10". 695 Illustrations on 289 Figures. \$15.00

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Chief Research Physician, Medical Department, Field Research Laboratory, Fort Knox, Kentucky

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Consultant in Dermatology and Syphilology to the Veterans' Hospital, Oakland; and Mt. Zion Hospital, San Francisco, California

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Rivers **Viral and Rickettsial Infections of Man**—Much of this extensive work deals with the clinical and pathological pictures induced by the viral and rickettsial agents in natural and experimental hosts. Sections on epidemiology and control measures are included in each chapter. 587 Pages, 77 Illustrations. \$4.00

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**SIXTY-FIRST
ANNUAL MEETING**

of the

**ASSOCIATION OF AMERICAN
MEDICAL COLLEGES**



October 23, 24, 25, 1950



**Lake Placid Club
Essex County, New York**